PETROLEUM WEEK

SEPTEMBER 16, 1955

■ A McGRAW-HILL PUBLICATION

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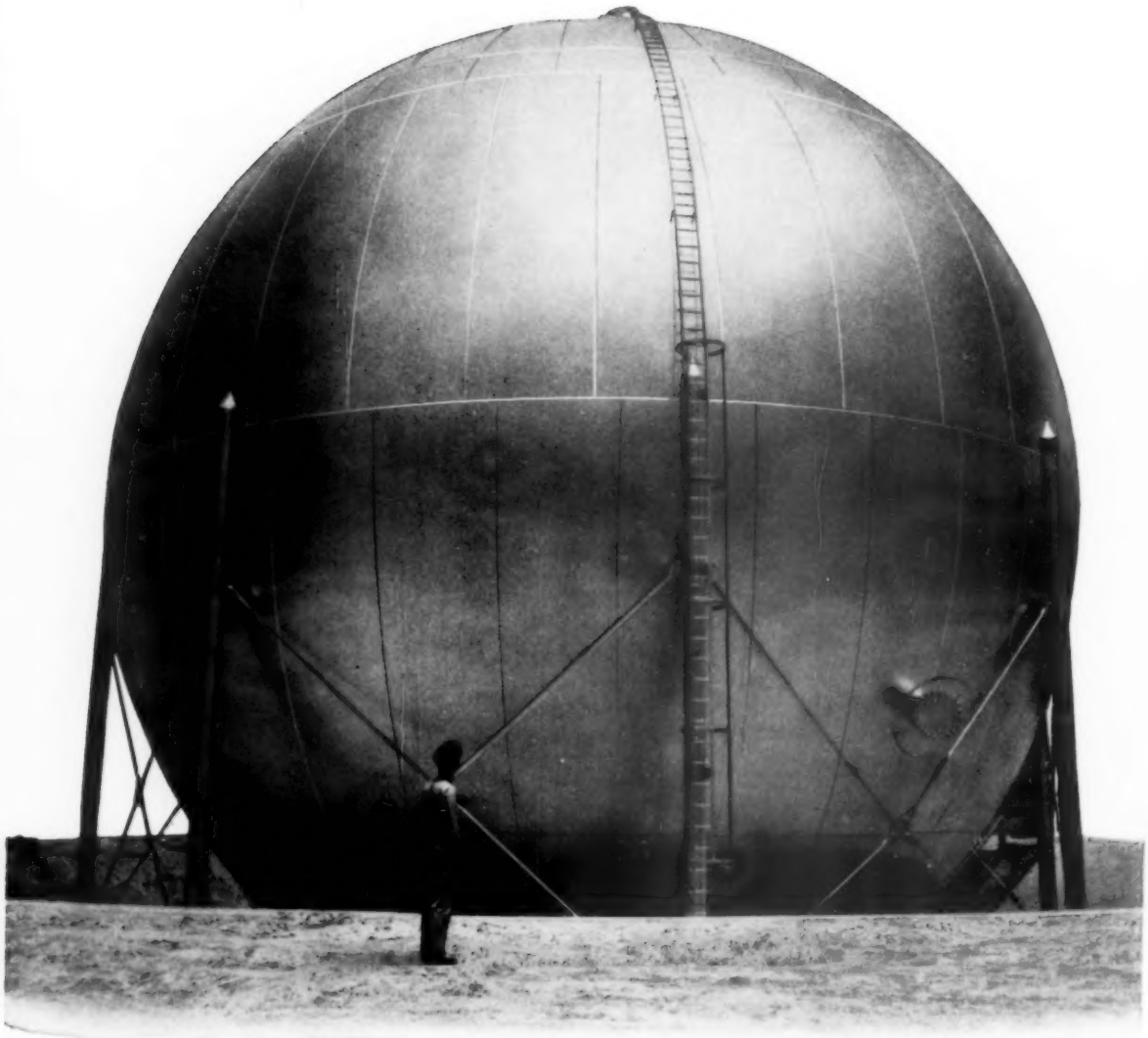

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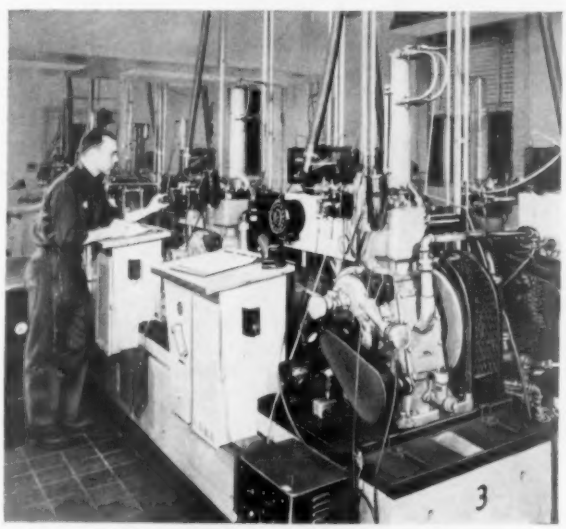

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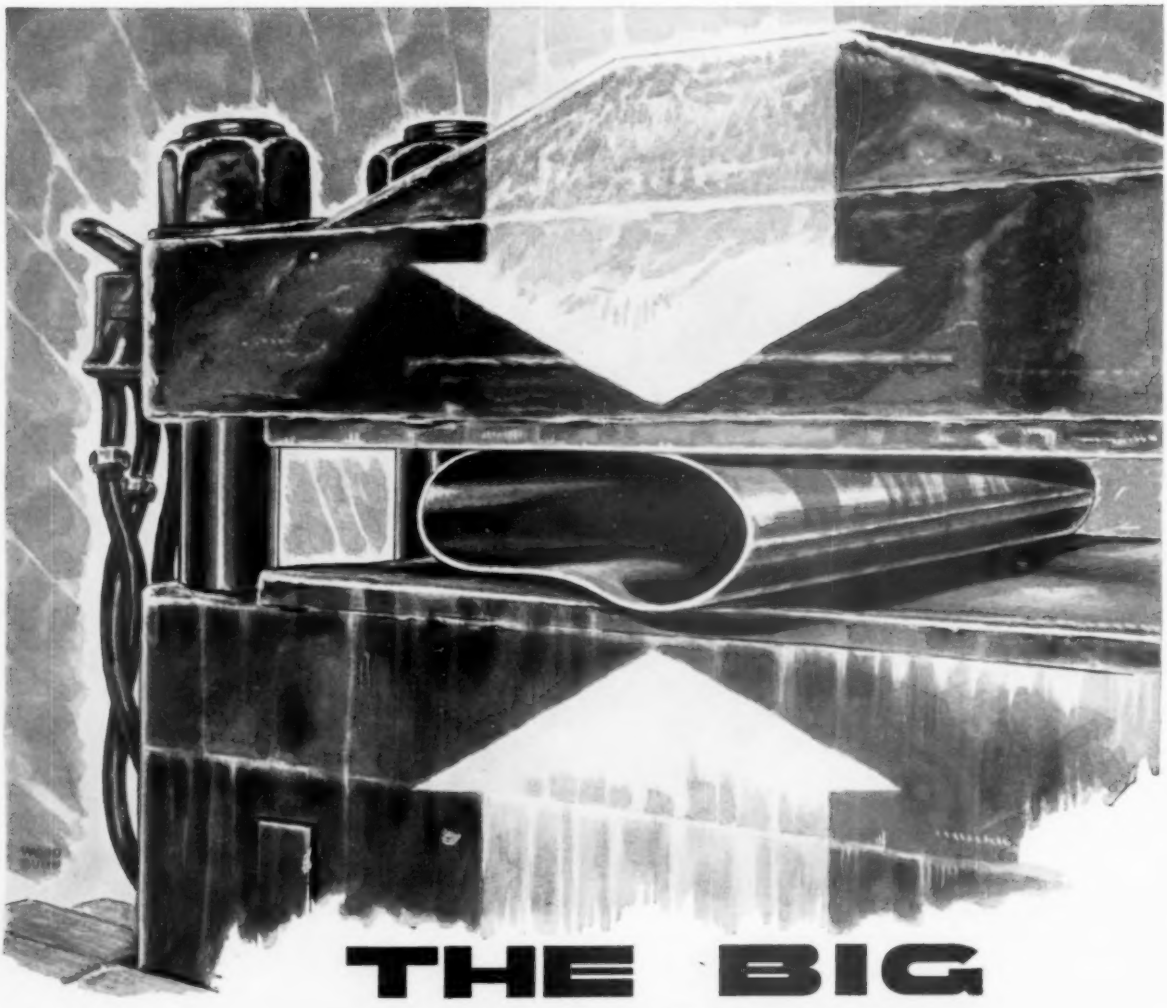

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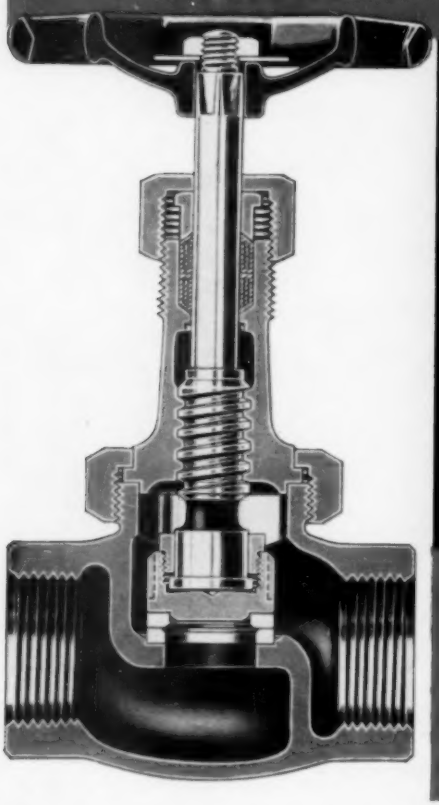

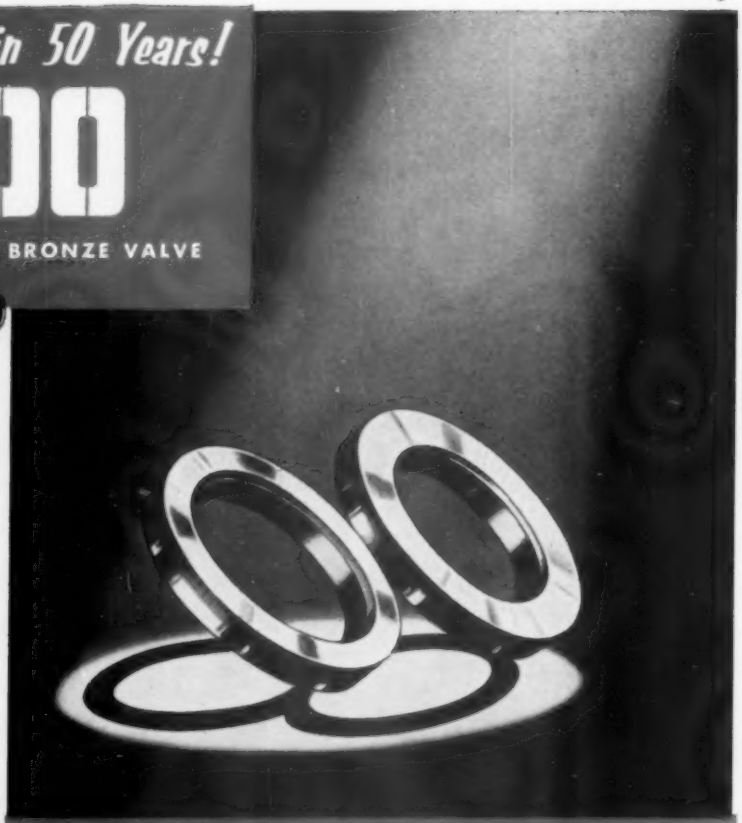

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60-Second Summary / WHAT'S HAPPENING IN OIL

September 16, 1955

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Defense Mobilizer Flemming's surprise ultimatum this week has oil importers puzzled. They don't see what Flemming expects them to do, beyond what they've already done, to solve the knotty problem. One thing is certain: The whole tone of Flemming's letter indicates that the Administration will impose quotas only as a last resort. . . . pp. 6, 11

•

Stanolind Oil & Gas Co. plans extensive geophysical activity in Cuba, where it has obtained a 12-million-acre concession. The deal is the biggest yet made for exploratory and drilling rights there. . . . p. 23

•

A leading Texas independent will spend $31½-million looking for oil in Pakistan. H. L. Hunt signed an agreement this week to invest at least that much in two 10,000-sq. mi. areas in West Pakistan. Pakistan will invest up to $5¼-million, and will own 25% of any oil found. The concession runs for 60 years; Hunt's profits, if any, will be shared 50-50.

•

Only congressional action can save natural gas producers now from federal regulation all the way back to the wellhead. The Federal Power Commission has made that clear by its rulings in two key cases. . . . p. 10

•

The payout from improved human relations can be terrific—greater than from new oil wells, better refineries, improved sales techniques. . . . p. 28

•

The oil industry may have to make capital investments totaling over $100-billion in the next 20 years to keep pace with demand. Because the bulk of the money will have to come from the industry itself, the maintenance of a high level of earnings is more than ever a must. . . . p. 13

•

The long fight over providing oil pipeline capacity from the Southwest to the East Coast may be in its last round. The Office of Defense Mobilization's public airing this week of the competing plans of Texas Eastern Transmission Corp. and American Pipe Line Co. pushed the matter to the showdown stage. . . . p. 9

•

Refiners had better keep close tabs on gas turbine developments, prepare for future changes in product demand, according to experts speaking at the National Petroleum Assn.'s annual meeting this week. . . . p. 20

•

Fuel injection systems in automobiles are much nearer than generally thought, may make their first appearance in some of the '56 models due out soon. . . . p. 12

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau

September 16, 1955

There's new heat in the fight over natural gas legislation.

The Deep South decision (page 10) will be used by congressional opponents of federal control to line up more support for the bill, passed last session by the House, to exempt independent producers from direct Federal Power Commission control. In this case, FPC interpreted the Supreme Court's Phillips case decision to mean that it can regulate, all the way back to the wellhead, the price of any and all gas that moves in interstate commerce.

Plans to tap the Florida consumer market figure in. A project to bring gas to this area has been worked up by Houston Texas Gas & Oil Corp. (PW—Sep.9'55,p34). This will be used by champions of FPC rate-setting as evidence that price control won't stop industry expansion.

Coal looks to the Northern Natural case for new ammunition. An FPC examiner has ruled that "below cost" gas sales should not be allowed to displace coal under boilers. The decision probably won't stick without congressional action.

•

Tank truck operators will fight adoption of the transport policy recommended by the President's special Cabinet committee. Argument to be submitted before a congressional subcommittee next week is that plans of the committee would favor the railroads by permitting selective rate cuts. These cuts would hit tank truckers first, the argument goes.

•

The government's ultimatum on oil imports came as a complete surprise. The letter Defense Mobilizer Flemming sent to importing companies, seeking new and stricter limits on imports, is a major policy move (page 11). Before, the industry had predicted that little would be done, if anything, so long as present ratios of imports to domestic production continued. Now, the issue is reversed. However, Flemming's appointment of Tariff Commission expert Harold D. Gresham to advise him is assurance that hearings will be held before a decision is made on whether to invoke government restrictions.

What to do about imports of heavy asphaltic crude is still a sticky question. Refiners in the Southeast are complaining that they can't get U.S. supplies of suitable crude, while at the same time, imports are tightening. The upshot may be a special deal for asphaltic crude importers.

The Iranian consortium won't play a big part in the ODM decision unless imports from that country increase. Texas producers complain of reports that independent members of the consortium are swapping Abadan-refined products for Persian Gulf crude, then importing crude into the U.S. However, the Independent Petroleum Assn. of America won't join in the complaint unless Iranian imports increase.

•

The Foreign Petroleum Supply Committee will get a new lease on life. The law extending the Defense Production Act requires the Justice Dept. to determine whether the voluntary agreement under which the committee operates should be continued. Attorney General Brownell will say yes. The Administration considers the group essential for obtaining information on foreign oil developments.

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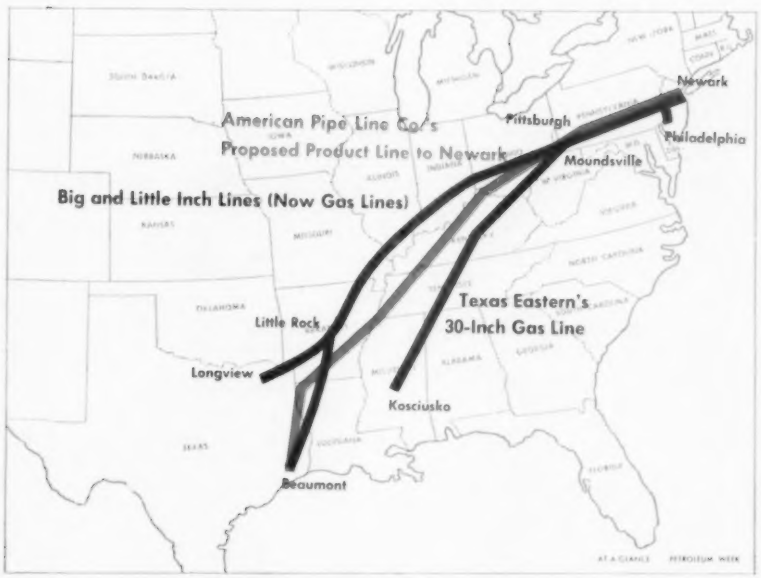


Final decision now up to ODM as . . .

Pipeline Fight Nears End

The arguments are finished. Now it's up to the Office of Defense Mobilization to decide what's the best way to increase transport capacity for moving petroleum and products from Texas to the East Coast in wartime.

Principals in the case had their say at a hearing this week in which ODM director Arthur J. Flemming sat as referee and sole judge. The hearing came as a climax to many months of study, talk, and controversy.

The National Security Council, among others, took up the question of East Coast oil supplies some months ago. This top-drawer, top-secret emergency planning board made several studies and concluded something should be done to insure such supply in the interest of national defense. The studies showed that at least 1-million b/d of additional transport capacity was needed. The "something" which could be done resolved itself almost automatically into one of two solutions: tanker movements or pipelines. Tankers presently supply the great bulk of oil to the East Coast, but they are vulnerable in wartime. Tank cars received some consideration, but such movement is expensive, ties up rail facilities which could be used for other movement, and couldn't move enough oil anyhow. Pipelines were all that remained.

Two pipeline plans have been proposed, one by Texas Eastern Transmission Corp., the other by American Pipe Line Co. The question is: Will either of them, or both, get financial assistance from the government?

It appears likely that at least one of the plans will get the federal government's go-ahead. Flemming has gone on record with the statement that, "Studies have made it clear that additional transportation facilities for petroleum from Texas producing areas to northeastern market areas is in the interest of national defense."

Texas Eastern wants government aid for its plan to prepare its Big Inch pipeline for emergency crude service to the East Coast. It wouldn't convert the 24-in. natural gas line immediately, but would stockpile money and materials to expedite the switch when it became necessary, if ever. The Big Inch would be able to move 500,000 b/d when changed over. The natural gas now carried by the line would be diverted to Texas Eastern's 30-in. gas line now running from Kosciusko, Miss., to the East.

Texas Eastern has already won approval from the Federal Power Commission to take 1,108 mi. of the Little Inch line, from Beaumont to Moundsville, W. Va., out of natural-gas movement; it now wants to convert the eastern end of the line to products movement too. When converted to products movement, the 20-in. Little Inch will transport 235,000 b/d. Additional standby equipment could be installed to boost capacity of the Little Inch to 375,000 b/d. Total wartime movements by Texas Eastern, therefore, would amount to 875,000 b/d if its proposals are approved.

American wants to build a new 500,000 b/d products line from Beaumont to Newark. It also wants government aid to build a parallel line of equal capacity if the need arises.

Everyone agrees that there's no present need for the additional pipeline capacity proposed by Texas Eastern and American. That's one important reason why both companies want the government to provide some aid—in the form of rapid tax amortization, direct loans, or loan guarantees.

Texas Eastern appears to have the inside track, with its proposal to set up its Big Inch line so that it could be quickly converted from natural gas to petroleum movement in wartime. But American also has strong support.

The cost of converting an existing line from natural gas to crude or products movement is considerably less than that for building and equipping a brand new line. Although Texas Eastern has not disclosed how much it would cost to convert the Big Inch, some idea of what the figure might be can be deduced from conversion costs for the Little Inch, which are estimated at about $15-million. This compares with American's estimated cost of $145-million to $195-million, depending on whether the line is built only to Pittsburgh or all the way to northern New Jersey.

American applied for, and received, a fast tax writeoff certificate from ODM more than a year ago. American put in a request for a "certificate of essentiality," which is a requirement for a government loan, or loan guarantee, from ODM. American wants this certificate for about $100-million to underwrite most of the construction costs as far as Pittsburgh. This would be repaid from shipping reve-

nues. The company would finance the eastern extension itself.

Barge operators oppose both lines. They were supported at this week's ODM hearing by coal industry spokesmen and other groups. Some major oil companies, with large tanker fleets, also hold a dim view of the proposals, but they haven't said so publicly.

Mississippi and Ohio River barge operators took the lead in opposition during the hearings. Also present at the hearing were the National Coal Assn., Northeast Pennsylvania Industrial Development Commission, Underground Storage & Exploration, Inc., and Lehigh Coal & Navigation Co.

The barge operators oppose not only building of new lines but also any plans to convert either the Big Inch or Little Inch. They argue that new pipeline facilities would play havoc with river transportation. They claim river terminals also would be severely hurt, if not put out of business entirely.

Since most of the present oil traffic to the East Coast is carried by tankers, independent tanker companies, especially, would be hit by any loss in tanker trade. And since many oil companies own their own tanker fleets, it is not likely that they would want to ditch them in favor of pipelines.

Producers, on the other hand, would be assured of facilities to transport petroleum and petroleum products in an emergency if the pipeline plans go through. They remember all too well the glut of oil stocks that piled up in Gulf ports during the last war.

Marketing patterns also would be revised if the pipelines are built, or converted. Many new areas not presently accessible by products pipelines would be opened up, new terminals built. Texas Eastern and American will have no markets of their own, but will ship as common carriers.

American's lack of connection with any large oil distributors on the East Coast indicates it might have trouble in getting enough business to keep its line operating at anywhere near its proposed capacity for a long time, barring a war emergency.

Texas Eastern plans to go ahead with conversion of its Little Inch line to products movement regardless of ODM's final decision. But this project is still being fought in the courts.

George T. Naff, Texas Eastern's president, says the Little Inch will begin moving petroleum products by the fall of 1956. It will carry all grades of gasoline, kerosine, heating oils, diesel oils, and fuel, as well as liquefied petroleum gas.

But American, which has fought the Texas Eastern proposal all along the line, is expected to continue the battle, possibly in the courts. And a group of barge operators have filed an antitrust suit against the conversion.

Flemming gave all parties a week to submit any further comments. He said he might or might not hold another hearing, depending on whether he decided one was necessary.

Spudding In an Office Building

When 32-year old K. S. (Bud) Adams, Jr., broke ground for his new Adams Petroleum Center in Houston, he did it in authentic oil field style. Adams handled the controls on a portable rig to spud in for the $7-million building. The center will serve as headquarters for Adams' oil activities, chief of which is Ada Oil Co. When completed, the building will be L-shaped in appearance from the front: a horizontal two-story block, with a 16-floor tower unit at one end.

FPC Rule Kills Last Gas Hope

It's certain now that nothing but congressional action can save natural gas producers from federal regulation clear back to the wellhead. This is the meaning of the Federal Power Commission's rulings in two cases this week.

Both revolved around the question of how far the Supreme Court meant to go in its 1954 Phillips case decision giving the FPC jurisdiction over gas sales for resale in interstate commerce. Three producing companies—Humble Oil & Refining Co., Deep South Oil Co., and Shell Oil Co.—challenged the commission's authority.

The commission was faced with a clear choice. In the Deep South case, Examiner Edward B. Marsh ruled in April of this year that the three producers are subject to regulation under the Natural Gas Act, even though their sales are made, by contract, before the gas is ever produced.

In June, Examiner Ewing G. Simpson handed down a different decision in the Dixie Pipe Line Co. case, involving Humble and 19 other producers. He said that sales made at or near the wellhead prior to gathering and processing do not fall under FPC jurisdiction.

In making its final decision in both cases, the commission held that there is an uninterrupted flow of gas from the wells of the protesting companies across state lines.

Counsel for the producers in the Deep South case claimed their natural gas sales were not actually sales in interstate commerce, because the purchaser is not an interstate pipeline company. And even if it was, they argued, such sales are exempted by section 1 (B) of the Natural Gas Act.

In rejecting the arguments, FPC said it doesn't matter how little gas *actually moves in interstate commerce*, or whether the producers know or intend that the gas will ultimately cross state lines. Humble will take the case to the federal appeals court in New Orleans.

Flemming Issues Imports Edict

- **The government will impose restrictions if takings of foreign oil are not curbed, ODM head notifies 18 importers.**
- **He gave the companies until Sept. 21 to come up with suggestions for a solution to the problem.**
- **Hope is that voluntary action will be taken to satisfy requirements of the trade agreements act.**
- **Federal limitations on imports will be taken by the Administration only as a last resort.**

Oil importing companies faced an ultimatum this week from Defense Mobilizer Flemming: Unless oil imports are reduced further by voluntary action, the government itself will impose restrictions.

Flemming said flatly that importers had failed to meet the standard set by the Cabinet Fuels Policy Committee and incorporated into the Trade Agreements Extension Act of 1955.

He gave the companies until Sept. 21 to propose a voluntary solution.

First reaction of importers was one of puzzlement over what Flemming expects them to do to solve the knotty problem. Major companies had told him in reply to his first letter, of Aug. 6, that they were staying within their 1954 ratios. Some secondary companies, which are exceeding last year's ratio, explained they were bound by contracts or other special circumstances and could do nothing further immediately.

The ODM director emphasized that he considers the present rate of imports too high and will not be satisfied until they are reduced.

"The statements of policy which the reporting companies made concerning future imports make it clear that, unless policy changes take place, the imports for the next several months will continue to be substantially in excess of the advisory committee's standards," Flemming said in his letter to 18 importers.

"The situation, stated simply, is that, considering the picture as a whole, the decisions that have been made to date will not assure the maintenance of that amount of oil production in this country which the Presidential advisory committee found is necessary to the national defense.

"It appears inescapable that in the absence of individual voluntary action by the importing companies, over and above that already taken, the government will have to take action . . ."

Flemming's action climaxed a series of developments since Congress passed the new trade law, with an amendment authorizing the President to restrict imports of any commodities found to be endangering the national security. Congress recognized the yardstick set forth by the Cabinet committee—that imports should not significantly exceed the 1954 ratio to domestic production.

Flemming was given the responsibility of notifying the Chief Executive when imports of oil or other commodities reached this level.

The ink was hardly dry on the trade bill when the Texas Independent Producers & Royalty Owners Assn. told Flemming that imports already exceeded the accepted standard, and that the machinery provided in the new trade bill should be put into motion.

Little was done until 27 senators from oil-and-coal-producing states demanded that Flemming disclose what he had done to meet his responsibilities. They warned new legislation would be introduced in Congress next year unless imports were reduced.

On Aug. 5, Flemming wrote 18 oil importing companies, asking that they provide information on imports in the first seven months of 1955, and outline planned imports through June, 1956.

He and his staff have been mulling over the replies since Aug. 19—with the political pressure growing all the while.

His action this week does not mean that government curtailment of oil imports is imminent. Even if importers don't come up with a satisfactory voluntary approach, the ODM chief hasn't written off the possibility of hearings before he makes a recommendation.

And even an official recommendation by Flemming that oil imports be curtailed is a far cry from Presidential action. Indications are that President Eisenhower would go slow on anything that might jeopardize his foreign trade program.

Nevertheless, Flemming is known as a cautious man. Close observers consider it highly doubtful that he would have made such a threat without assurances that he was in step with the President.

Whether Flemming's letter this week accomplished anything or not, it certainly created a ruckus. Some importers said it appeared to them that Flemming was trying to pass the buck back to the companies, instead of proposing some course of action himself.

Their attitude was this: What else can the importers suggest except to restate the reasons for what each company itself has or has not done?

One importer put it this way: "We are going to tell Mr. Flemming that we are one of those companies complying and suggest that perhaps he should ask his questions of the companies that aren't."

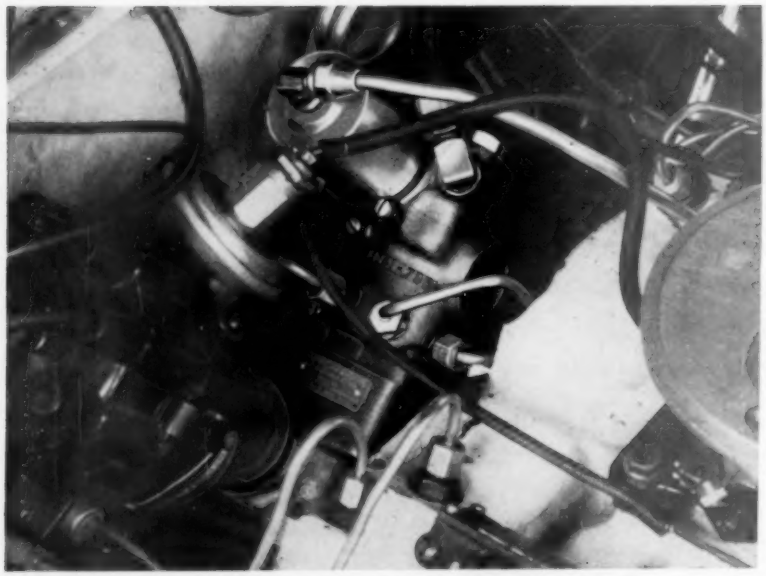
There are many complicating factors. For example, there are a number of nonreporting companies. These are not so important in crude oil imports, but they are in residual oil. One informed source estimates that all the principal residual importers are complying with the imports formula, but that an additional 70,000 b/d to 75,000 b/d still are not accounted for, and that it is this that puts the big bulge in residual imports.

One thing was clear in the confused picture: Domestic producers are pleased with Flemming's action. They feel it irrevocably commits the Administration to take action to keep imports ratios at 1954 ratios.

However, close observers noted that the ODM chief left himself plenty of maneuvering room before restraints are actually imposed.

A knowledgeable government source put it this way:

"Imposing government restraints on imports is the last thing this Administration wants to do. But there are a few 'bad actors' among the oil importing companies. We have to whip them into line before Congress comes back next January. We hope this will do it."



TEST CAR with fuel injection shown to NPA convention delegates indicates that . . .

Fuel Injection Is Coming Soon

Fuel injection systems are past the experimental stage. There's even a chance, in fact, that they may show up in one or more of the 1956 model cars.

A Lincoln fuel-test car equipped with a fuel injection system was shown this week to oil men attending the National Petroleum Assn. convention in Atlantic City.

Ford may be the first car maker to come out with fuel injection. It's known that Thunderbird engineers hoped to introduce the system in next year's model, until Ford's Central Engineering staff turned them down. Lincoln engineers have similar plans, and so far Central Engineering has not nixed them, so the way is still open. Other car makers are reluctant even to hint at a likely introduction date, but planning is going ahead on all fronts.

There are at least five distinct advantages to be gained by a switch to fuel injection systems:

- **More power**—from 6% to 7% more than a car equipped with a carbureted engine.
- **Lower octane requirements**—by as much as five octane numbers is made possible primarily because the engine runs cooler.
- **Fuel economy**—up to 14% over a carbureted engine at a speed of 60 mph.
- **Less vapor lock.**
- **Lower hoodline design**—made possible by elimination of the carburetor.

High cost is the big carrier to quick, mass introduction of fuel injection systems.

Even in quantities of thousands, cost of the systems runs between $150 and $200 per car. That is considerably more than it costs to equip a car with a four-barrel carburetor.

The high cost factor is due mostly to the extreme precision with which injection nozzles must be made. Tolerances run down to the millionths of an inch, which makes mass production very difficult and very costly.

The test car shown at Atlantic City was equipped with an American Bosch system, installed by Du Pont's Petroleum Chemicals Division.

American Bosch is one of the two largest manufacturers of fuel injection systems and one of the first to make the systems available for passenger cars.

Du Pont made the study as a service to refiners to determine what future gasoline quality requirements probably may be.

The system installed on the Du Pont test car consists of a fuel transfer pump to move gasoline from the tank at about 35 lb. pressure, through a filter, to the fuel injection metering pump. The injection pump distributes the required amount of fuel to each of the eight fuel nozzles located at the intake ports, where the fuel is sprayed into the air stream. Injection of the fuel occurs only during the intake stroke; the amount of fuel injected depends on manifold pressure.

What's New
IN THE INDUSTRY

Unrest Crops Up in NOJC

One of the biggest member associations decided last week to quit the National Oil Jobbers Council, and a second indicated it would follow suit. The actions were protests against the rising costs of membership and NOJC's expanding role in jobber affairs.

The Empire State Petroleum Assn. (New York) notified NOJC it was pulling out of the council as of Dec. 31. And an official of the Kansas Oil Men's Assn. said KOMA "no doubt" would quit at the annual meeting in November.

ESPA gave these reasons: NOJC is becoming too costly to belong to; the Council has "strayed too far from its original concept;" NOJC isn't responsive to the current leadership of member associations.

KOMA dissatisfaction centers around these points: New NOJC dues for Kansas are $5,000 annually, "and we don't have that kind of money." Also, KOMA President E. D. Erickson hinted that Kansas jobbers don't like recent NOJC attacks on the Oil Industry Information Committee and NOJC threats of organizing a drive against the 27.5% depletion allowance.

Each group left the door open to a possible change of mind, however.

Right after ESPA and KOMA had expressed themselves, several other member associations quickly rallied to NOJC's defense, saying they were satisfied with the Council's conduct. They urged the two unhappy members to reconsider.

•

Consortium Under Fire

Independent Texas oil producers, backed by Sen. Lyndon B. Johnson, want to make sure Iranian consortium agreements won't cause domestic producers to be drowned in Iranian oil.

Chief cause of alarm was the recent announcement that several independent consortium members are swapping their shares of Abadan refined products for Persian Gulf crude, and shipping the crude to the U.S. (PW—Aug. 26'55,p5).

A. P. King Jr., of Houston, president of the Texas Independent Producers & Royalty Owners Assn., has asked Under Secretary of State Herbert Hoover, Jr., whether there has been any violation of agreements that Iranian oil would not jeopardize do-

mestic independents supplying domestic needs.

Johnson, in a letter to Secretary of State John Foster Dulles, raised the same question and stressed that return of Iranian oil should not result in further increases in "already heavy imports of oil into the U.S."

•

Two Canadian companies are setting out to extract oil from bituminous sands of Northeastern Alberta on a commercial basis.

Royalite Oil Co., Ltd., and Can-Amera Oil Sands Development, Ltd., will use a new separation process developed by G. R. Coulson, chief engineer for Can-Amera. The companies have purchased the Alberta government's experimental extraction plant and plan to build additional facilities.

The Alberta sands are estimated to contain up to 300-billion bbl. of oil.

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The second explosion and fire within two weeks at the Whiting refinery of Standard Oil Co. (Ind.) was a minor one, by comparison with the one of Aug. 27 (PW—Sep.2'55,p11).

The second fire, which had no connection with the first, was attributed to escaping naphtha fumes ignited by a furnace. The damage was estimated at around $100,000.

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The Internal Revenue Service wants to avoid a showdown on whether it should collect an excise tax on re-refined oil.

Government attorneys are seeking dismissal on procedural grounds of a suit filed by Barkow Petroleum Co. to force IRS to collect the tax. Skirting the merits of the case, government lawyers contend there is "lack of interest"—that is, one taxpayer cannot compel the government to collect taxes from another taxpayer.

PETROLEUM COMMENTS / By W. M. Jablonski

Expansion: A $100-Billion Proposition

If there's anyone who still doubts the need for a firm crude oil price, or for the tax depletion allowance, or for the many other factors that contribute to a strong, healthy petroleum industry, he need only look at a few recent figures.

Last year alone, the oil industry had to spend an astronomical $7.5-billion — that's BILLIONS, not millions—to improve and expand its facilities in the free world, according to the Chase Manhattan Bank. (Of this, $6.4-billion was spent by U. S. oil companies, $5.4-billion of its domestically.)

Nor was this a mere one-shot proposition. It followed an already enormous capital outlay of $36.5-billion ($27.2-billion in the U. S.) in the previous eight post-war years.

* * * *

What's significant, however, is that there's no letup in sight to these staggering capital investment needs.

It looks as if oil's capital outlays this year will top even last year's record—which was some 80% higher in the U. S. than the rate just five years earlier. Preliminary estimates now indicate oil capital expenditures in 1955 may hit close to $8-billion (with nearly $6-billion in the U. S.)

* * * *

What lies down the road is anybody's guess, of course. But if even the most conservative forecasts of oil demand growth for the next decade or two prove even remotely correct, the industry's additional capital investment needs will stagger the imagination—just as current rates undoubtedly would have startled oil men 20 years ago.

For instance, no less a source than the head of the joint distributing organization in Great Britain of the Royal Dutch Shell and British Petroleum—C. M. Vignoles, of Shell-Mex. & B. P., Ltd.,—recently forecast that the oil industry will need new capital investments of something on the order of $110-billion to meet oil demand in the next 20 years.

That company estimates that in 25 years' time, free-world consumption of oil products will be nearly two-and-a-half times the present figure. The industry will have to provide its markets not with 14-million b/d, as at present, but with over 30-million b/d.

Other sources estimate that, even if one uses the most conservative calculations of an average annual gain of only 3.5% to 4% in oil demand, capital requirements will increase some 5% to 6% annually.

In any case, it would seem obvious that the capital needs of the oil industry as a whole are likely to rise notably in the near future, and startingly in the more distant future.

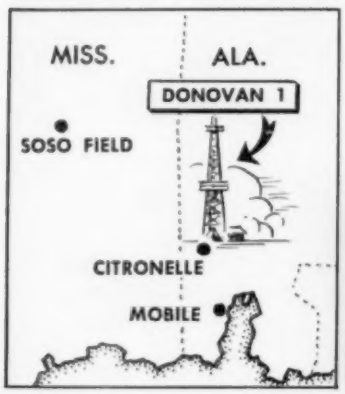
* * * *

Where will all the money for this $100-billion proposition (which sounds more like a U. S. budget figure than a one-industry program) come from?

There is only one ready answer: The bulk will have to come, as in the past, from the industry itself. And this means the industry will have to continue ploughing back its profits into replacement of oil reserves withdrawn from the ground, into development of new reserves for additional demand, and into continuous modernization and expansion of its refining and distributing facilities. If it is to do the job required, on the vast scale that is required, it will obviously need a high level of earnings.

Yet, even if earnings stay high, it seems apparent that the oil industry will remain strapped for cash for a long, long time to come.

EVERETT EAVES did most of the legwork in assembling the Citronelle acreage



EVERETT EAVES' faith helped move this rig to Citronelle. But question remains . . .

Major Field in Alabama?

Fifteen years of exploratory effort went into the discovery of what may become Alabama's first major oilfield. What happened provides a case history of the events that often surround the birth of a field.

Zach Brooks Drilling Co.'s John C. Donovan No. 1, rank wildcat just north of Citronelle, in Mobile County, found oil in the Rodessa sand of the Lower Cretaceous (PW—Aug.26 '55,p16). Last week drillstem tests found promising oil shows in at least three Rodessa zones. The deepest show, in the interval between 11,467-517 ft., is nearly 500 ft. below the zone tested initially. Seven-inch casing was bottomed at latter depth.

Performations were made at 11,394-409 ft., at 11,373-79 ft., and at 11,-270-83 ft. The well was then flow-tested. Packer was set at 11,258 ft., and a 1,000-ft. water cushion employed. Estimated daily flow, based on approximately 9-hr. test, was 200 b/d of 40-gravity crude through a ¼-in. choke.

At week's end it had been decided to complete the well at the lower depth.

At least a dozen wells were drilled in the area—all of them dusters—before the new discovery, but each lent something to the accumulation of knowledge that resulted in the find.

Some of these dry holes helped show that the structure penetrated apparently is part of a trend which cuts through southern Mississippi, into southern Alabama, and possibly into northern Florida. Its nearest "close kin" seems to be Mississippi's Soso field, some 75 mi. northwest (map).

The Brooks discovery was drilled almost on the peak of an anticline which underlies Citronelle. This structural high has been known for a long time, and geophysical crews have been active in the area. In the early 40s, production was found across the border in Mississippi, in the Tuscaloosa sand of the Upper Cretaceous series.

This brought a mild flurry of exploratory drilling to the south and east, which extended into Alabama. Several dry holes were drilled close to Citronelle. But none was drilled to the Rodessa, where the Brooks wildcat found oil. The shallower Tuscaloosa formation (at about 7,000 ft.) was the primary target of this drilling program.

Two years ago, however, Gulf Refining Co. brought in its J. W. Bailey No. 1 in the Rodessa formation, from 12,367 ft., in the now-prolific Soso field of Mississippi. This was the real key that started lease buying at Citronelle, and then later led to the Brooks discovery.

The discovery involved something else: a cooperative joining of forces between major oil companies, independent operators, a drilling contractor, and a railroad—all willing to take a risk.

Gulf had been interested in the Alabama potentialities for years and held a large block in the Citronelle vicinity. Primarily on the basis of the early dry holes, others had been buying leases in the area over a period of years.

Everett Eaves, a Shreveport (La.) operator (picture), associated with Seneca Development Co, of Dallas, had been considering the Citronelle area for a long time. Spurred by the Gulf discovery at Soso, Eaves started to line up leases in April, 1954.

Eaves assembled about 4,400 acres. By last November he was ready to talk with Gulf and other large lease holders on drilling arrangements.

Zach Brooks Drilling Co. agreed to move a rig to the Citronelle location from Haynesville, La. The test was projected to 11,500 ft., and the cost estimated at $200,000.

In lieu of a drilling fee, Brooks received a large part of Eaves' lease rights plus a great deal of the money put up by Gulf and others to help defray expenses. Gulf contributed about one-half the cost of the well in return for a one-quarter interest if it turned out to be a producer. Brooks has a one-half interest, and Eaves and his associates a one-quarter interest.

Sun Oil Co., Seaboard Oil Co., and Superior Oil Co. contributed "dry hole money" to lessen the operators' burden. In return, they received information on the formations drilled. The project was also made more attractive to the operators by acreage donations from the Gulf, Mobile & Ohio Railroad, Magnolia Petroleum Co., Central Oil Co., and Smith County Oil Co., all of whom have

considerable nearby holdings which have now appreciated in value.

During the drilling of the discovery well, the drilling crew was almost lost in the crowd of scouts, geologists, and just plain "visiting firemen" at the site.

Donovan No. 1 went to 11,517 ft. in 51 days, including 19 days spent in coring. Logging indicated two pay sands originally, before last week's third zone find. The first zone had about 30 ft. net, and the middle horizon showed 27 ft. net.

An early drillstem test in the top zone yielded about 1,800 ft. of 40.5-gravity oil and oil-cut mud in eight minutes.

When it became apparent that the well was a discovery, a terrific lease play was kicked off in the vicinity and in other neighboring southern Alabama counties. Bids ranged up to $100 an acre for leases and up to $1,000 an acre for royalty interests.

Already, several substantial blocks of acreage have been lined up for future drilling. Estimates are that major lease holdings shape up roughly like this: Gulf, 8,000 acres; Magnolia, 5,500 acres; Seaboard, 4,000 acres; Sun, 4,000 acres, and Superior, 1,000 acres.

This means a lot of drilling will be started to develop the area, and many prospects along the structure will be re-examined. Gulf has planned an offset well that may be spudded in this month.

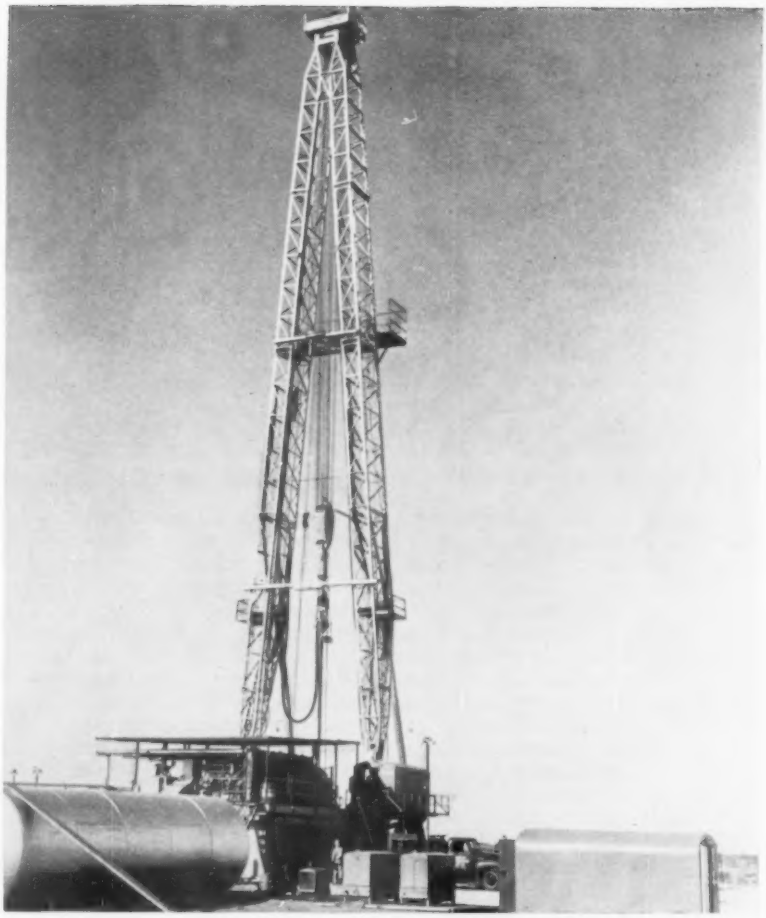
Initially, the crude will be trucked out, and some probably will be shipped in tank cars as the volume increases. Eventually, it will be piped out, if prospects warrant—probably to the port of Mobile, for barging.

Many confirmation wells will be drilled and analyzed before conservative geologists will make estimates on the size of the field.

The structure is large, and the peak of the anticline may slope down 600 ft. to 700 ft. before fanning out sufficiently to have permitted oil to escape. While drillstem tests have indicated a large accumulation of oil in the vicinity, the extent of this accumulation won't be known until the results of many other wells are studied.

There's a lot of speculation as to the importance of the find, ranging from Eaves' conservative estimate that the reservoir comprises "in excess of 2,500 acres" to the exuberant prediction by the state's geologist, Walter B. Jones, that the well will make Alabama "one of the major oil-producing states in the nation."

A few more months may tell the story.



Here's a 'Field-Designed' Rig

If you want to build a better drilling rig, consult the men who do the drilling. That was the idea behind G. W. (Jack) Walton's interviews in the oil fields.

Walton, of Dallas, is president of International Derrick & Equipment Co. He wanted to design a rig which could use standard parts and could be moved and rigged up with a minimum of time and labor. He incorporated his ideas with those of practical drilling men, then drew up plans and specifications and went back to the oil fields for more suggestions. As the rig took shape in the factory, those who had contributed ideas were brought in to see the actual work.

The result is IDECO's new "Super 7-11." It is so designed that many parts are interchangeable with those of other manufacturers; it is highly portable, with all components skid-mounted for easy transport; and it can be used with mechanical drive, hydraulic torque converters, or hydraulic couplings.

When used with engines with a combined horsepower of 1,200, the rig can drill to 12,000 ft. with 4½-in. pipe, or to 15,000 ft. with 3½-in. It has six hoisting drum speeds and three rotary, cathead, and sandline drum speeds, which give flexibility for drilling below 10,000 ft. All speeds are controlled from the driller's control group.

High and low main drum drives, coupled with the three forward and single reverse transmission speeds, provide six speeds forward and two reverse at the main drum.

The full-view, 143-foot derrick has a capacity of 940,000 lb.

The No. 1 rig of the 7-11 series was bought by Durham Drilling Co., Inc., Midland, Tex., and put to work in Andrews County. It has completed one hole of medium depth and is drilling its second.

A duplicate of the Durham rig is en route to Egypt for use by International Egyptian Oil Co. (PW—Aug.19'55,p25).

What's New / IN PRODUCTION

Gas Pricing Power Denied

The Texas Railroad Commission has again denied its right to fix the price of natural gas.

Last week's case involved the Alco-Mag field, discovered in Harris County two years ago. Industrial Gas Supply Corp., which owns the field's only pipeline outlet, also has six gas wells there. The other producer, Russell Maguire, has five wells ready to produce and two others nearing completion. Industrial said it needed to buy gas from Maguire's wells to fill its market demand. But Maguire refused the pipeline operator's offer of 7.5¢ per Mcf. Industrial asked the commission to make Maguire sell at a "reasonable" price.

The commission refused. Said Commissioner Ernest O. Thompson: "We're not going to enter price-fixing consciously. That matter was before the legislature. They failed to pass it." To which Commissioner Olin Culberson added: "I don't think the railroad commission by implication, practice, or precedent can set prices."

As an alternative to forcing Maguire to sell at the price offered, Industrial asked permission to produce more from the other wells in the field. This request was also refused.

The commission is in the process of tightening up on gas proration (PW—Sep.2'55,p14). Methods are being discussed in conection with a hearing on the Carthage field. A decision on changing the rules has been deferred until January.

Producers contend that where a single pipeline outlet is available to a field, prices can be forced down. Spokesmen for Russell Maguire told the commission prospects are good for another line in the Alco-Mag field.

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Test Slated 60 Miles Out

"Mr. Gus," a self-contained, submersible drilling barge, will drill a test in 80 ft. or more of water, and farther from the Gulf shoreline than any yet attempted off Texas according to the present plans of Shell Oil Co. The prospect will be located 60 mi. southeast of Galveston, on one of several federal tracts leased July 12 by Shell.

"Mr. Gus," owned by C. G. Glasscock of Corpus Christi (PW—Aug. 12'55,p17), was used by Shell in drilling its first two offshore wells. The submersible proved its seaworthiness last week by withstanding the buffeting of tropical storm Gladys. The barge was on location in 84 feet of water, 15 mi. northeast of Port Aransas, Tex., when the storm hit. Drilling was discontinued, but 33 men remained aboard. There was no damage.

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California Law Activated

There was just one request for opening of California's offshore lands to exploratory drilling when the state's new law governing marine drilling went into effect.

According to Lands Commission policy, neither the name of the petitioning party nor the lands involved was announced. The new law supersedes a regulation under which only state-owned lands being drained by nearby production were put up for drilling. Qualified operators may now request that specific submerged state lands be opened for exploration. Areas in danger of drainage will still have priority in the leasing program.

•

Northwestern North Dakota's two discoveries within a one-week period could add up to the state's most important development since the original strike in 1951.

Calvert Drilling, Inc., has a discovery at Gunnar Opseth No. 1, about 16 mi. south of the Canadian border, and about 28 mi. east and 15 mi. north of the Tioga field, on the productive Nesson anticline. Calvert recovered 450 ft. of oil- and gas-cut mud, estimated 25% oil, and 180 ft. of gas- and mud-cut oil, estimated 60% to 75% oil, no water, on a four-hour drillstem test from 6,433-83 ft.

A week earlier, Sohio Petroleum Corp. recovered 3,911 ft. of water-free oil at Ritter 1, a wildcat 29 mi. east and 11 mi. north of Calvert's discovery.

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Imperial Oil Ltd. has reorganized its bulky western Canadian exploration and producing operations into two divisions.

The western office at Calgary has been made regional headquarters, and within that framework there will be division headquarters at Edmonton and Regina. The Peace River office, soon to be moved to Dawson Creek, B. C., will continue as a district operation of the Calgary regional office.

Staff changes resulting from the reorganization include: Walter B. Dingle, former western division engineer, Calgary, to Edmonton as division manager; Harold W. Stoneman, producing coordinator, to Edmonton as assistant manager; Vernon H. Hunter, management assistant at Calgary, to Regina as division manager; A. L. Laberge to production manager at Edmonton, succeeding R. V. Welch, moved to Calgary as assistant regional production manager under V. J. Moroney.

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A half-interest in 40 producing oil wells on 2,880 acres in Pawnee County, Kan., has been purchased by Big Chief Drilling Co., of Oklahoma City, from Hilton Drilling Co., Great Bend, Kan. Amount of money involved was not announced, but it is understood that part of the payment was in cash, and the remainder is to be paid out of future production

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A record $432,629 was paid to the British Columbia government by Hudson's Bay Oil & Gas Co. for rights to 444,206 acres in the northern part of the province. The acreage is 80 mi. northwest of Fort St. John, site of the province's biggest gas field.

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Sinclair Oil & Gas Co. has opened a third oil-producing pay for the Crooks Gap pool, Fremont County, Wyo. Drillstem tests of Crooks Gap 11 confirmed 76 ft. of pay sand with prolific recovery from 5,554-647 ft. Casing was being cemented for completion.

Earlier tests confirmed oil production from the Muddy sand at 4,799-864 ft. The field also produces from the Lakota sand.

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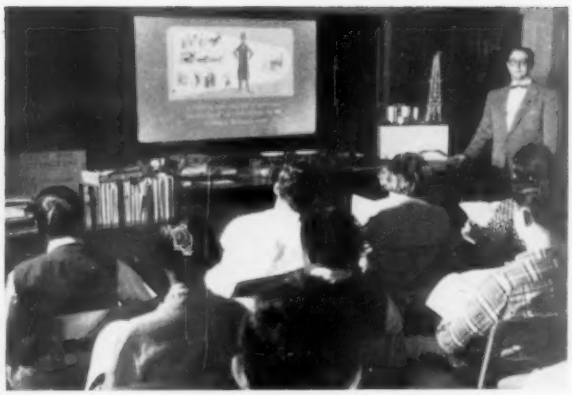
Phillips Petroleum Co. and Southland Royalty Co. are completing Zulette 1, central Reagan County, West Texas, as an Ellenburger gas-distillate discovery. The wildcat flowed 543 bbl. of 58.6-gravity distillate in 24 hours through small choke from 22 ft. of perforations bottomed at 10,554 ft. The well had previously indicated commercial possibilities from the Fusselman at 10,640 ft., the Lower Wolfcamp at 8,124 ft., and the Spraberry sand at 5,750 ft.

LOCAL OIL MAN holds session with teachers who . . .



EXPLAIN OIL'S PART in the American economy as . . .

Oil's Story Is Told in the Schools

The story of oil will be told in more high school classrooms this year than ever before. The stepped-up program will be directed by a top-level educator appointed this month by the American Petroleum Institute.

API's school program is designed, basically, to make young Americans aware of what the oil industry is, and what it means to them and to the country, thus gaining support for a free, competitive economy. The program has the auxiliary aims of winning the support of school authorities for the same objectives, and of making oil men more interested in their local school systems.

The educator is Dr. Herbert R. Jensen, who was professor of education and director of the Instructional Materials Center at Colorado State College of Education. Dr. Jensen's appointment as API's Supervisor of Educational Activities became effective Sept. 1. His selection concluded a long search by API to find the right man to head up its intensified school program, which is under the jurisdiction of H. B. Miller, director of the Dept. of Information and executive director of the Oil Industry Information Committee.

Jensen, an authority on audio-visual instruction, was former Survey Director for the National Research Council's Committee on Scientific Aids to Learning and former Director of Research for National Educational Films, in New York. He served as a visual education consultant for the Navy, with the rank of lieutenant commander, during World War II.

API has set its sights on reaching 10,000 schools this school year, a big jump over last term's total of 6,243. As before, it will prepare and supply oil industry materials designed to supplement class studies.

API began its school program on a test basis in the fall of 1952. Success of the program in the 1,000 schools selected prompted API to expand coverage. The total number of schools reached in 1953-54 was 2,379, and this total more than doubled last year. To implement the program, 2,396,212 pieces of educational material were distributed last year. If API meets its goal of 10,000 schools this term, it estimates it will distribute nearly 4-million pieces of material.

When API decided to launch its school program, it contacted leading educators throughout the country for advice in preparing texts and teachers' aids. The result was several booklets, covering such topics as the chemistry, physics, conservation, and economics of oil. Supplementary materials for teachers include wall charts, film strips, work supplements, and handbooks. All are given free to schools that request them.

DR. HERBERT R. JENSEN, authority on audio-visual education, is directing API's accelerated school program.

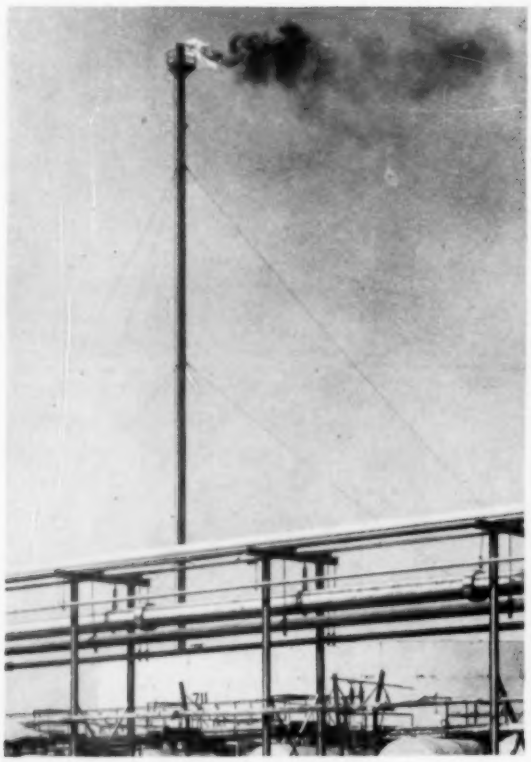
Success of the school program hinges on the cooperation of local oil men. They make contact with the school, supply material, brief teachers, and arrange trips, displays, and other promotions.

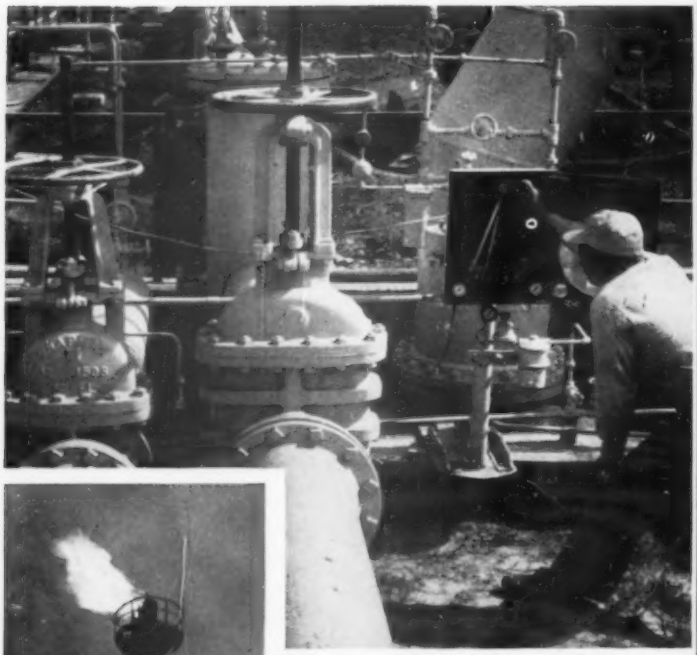
The program never has been offered to schools from a central office on a mass basis. It is always introduced by producers, refiners, jobbers, or dealers who live in the communities where the schools are located. This arrangement encourages the oil men to discuss their industry with teachers and students, thus increasing mutual understanding on the local level.

Any school in the country may receive API materials on request. But it is not considered "in the program" until it has been visited by a local oil man. API admits this means reaching schools more slowly, but it feels the results warrant it.

The program is not advertised in teacher publications. API fears such advertising might lead to an overwhelming demand for the materials, with consequent loss of the personal contact considered essential.

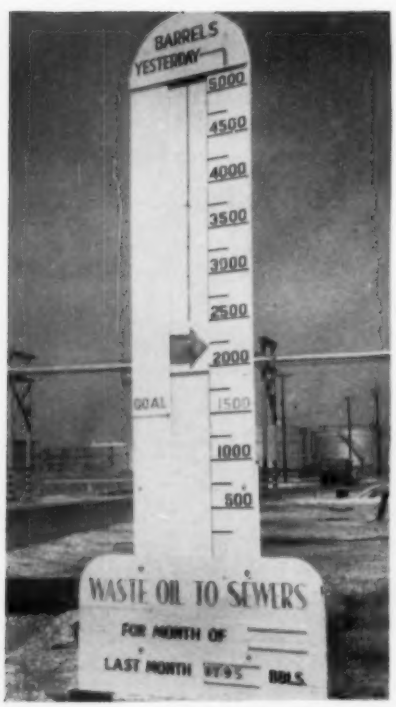
Every OIIC district office maintains record cards on each school in the district participating in the program. The card contains statistical information about the school and materials supplied, as well as the name of the oil man who acts as contact.



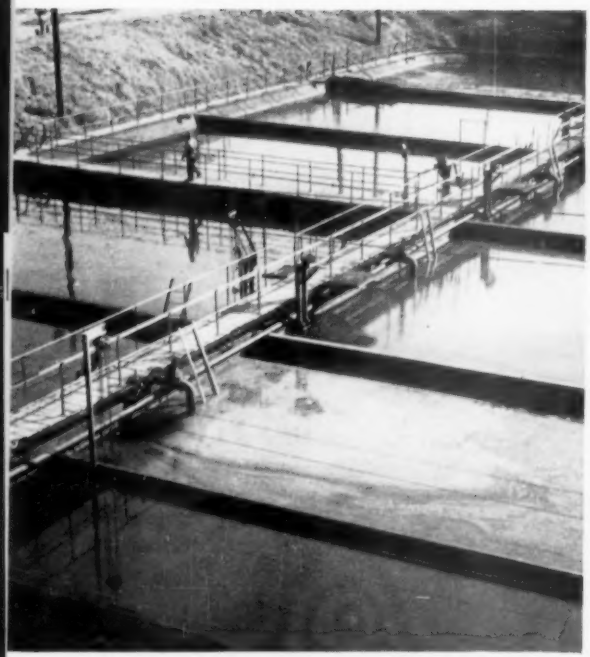


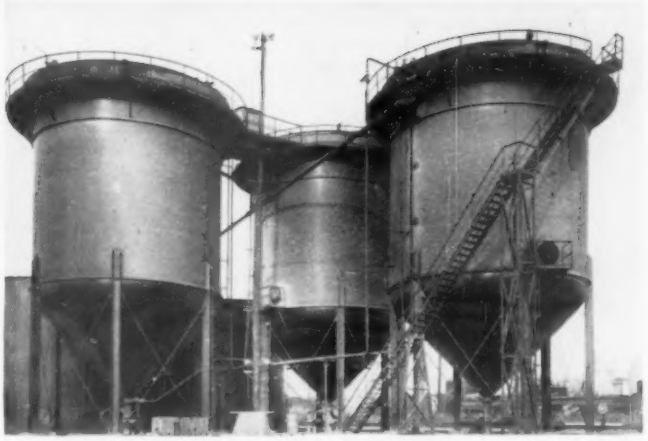
This meter (above) helps control air pollution by indicating how much steam should be injected into a flare line to prevent a smoking flare stack. The results of steam injection can be seen by comparing the before-and-after photographs at left. The meter also shows the volume of gas burned.

Esso Refinery Goes All Out to Cu



Nolan J. LeBlanc demonstrates to a group of foremen some of the principles of reducing liquid losses, an important part of Esso's antipollution program. Losses in sewers are recorded daily (left) to keep employes always conscious of the waste-reduction program.





The refinery recovers about 1,800 b/d of oil from waste water by using separators (above). In addition, the dredge (top, right) sucks oily mud and silt from the master separator. This is pumped through the pipeline behind the dredge to a treating unit (bottom, right) where the silt is washed with water and air. About 90% of the oil can be recovered and reused in the refinery as feed stock. The cleaned silt and mud can be used for fill.

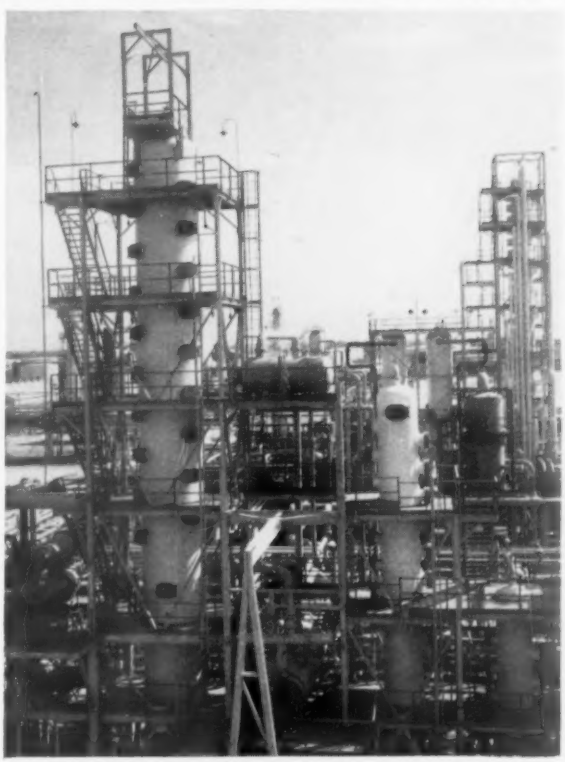
Pollution—and Waste

Modern refineries are designed to keep losses of liquids and vapors to an absolute minimum for economic reasons, but a certain amount of losses are inherent in operations. These wastes can contribute to both air and stream pollution if not controlled.

At its Baton Rouge (La.) refinery, Esso Standard Oil Co. has gone all out to keep such wastes from leaving the plant. The company has made equipment changes and additions, and has instituted a training program to teach employees how to reduce losses.

One equipment change at the refinery is a steam injection system into waste gas flare lines to eliminate smoky flare stacks. A hydrogen sulfide recovery unit was installed to remove sulfur from sour gas used as refinery fuel before it is burned. In addition to preventing offensive odors from escaping into the air, the unit recovers about 25 tons of sulfur daily. Realization from sale of the sulfur about pays for the unit's operation.

One of the most important problems overcome by Esso Standard was preventing harmful chemicals and other undesirable effluents from contaminating the Mississippi River. Water from the stream is used in cooling operations in the plant and some effluents are deposited in it. A master separator system was created by a dam and retaining wall to prevent oil entrained with water and even oily silt or mud from escaping back into the stream.



This hydrogen sulfide unit removes sulfur from refinery fuel gas before it is burned, prevents odors from escaping.

A. B. Crampton

Harry F. King

C. M. Gardiner

Researchers warn refiners that . . .

Turbines Mean Business

Refiners received a warning this week: Stick close to the companies who are developing the gas turbine to see how it will change the refining picture in the future.

The warning—plus an enormous amount of recently developed information on the gas turbine—came at the 53rd annual meeting of the National Petroleum Assn. at Atlantic City, N. J.

Seven experts on gas turbines spoke yesterday at a symposium on the gas turbine. They were:

A. B. Crampton, of Product Research Division, Esso Research & Engineering Co.; Harry King, of Bureau of Ships, U. S. Navy; C. M. Gardiner, Supervisor of Combustion & Gas Turbine Engineering for General Electric Co.; F. Fahland, General Mechanical Engineer for Union Pacific Railroad Co.; M. C. Hardin and F. G. Dougherty, of Allison Division, General Motors Corp.; and Dr. Andrew A. Kucher, Director of Scientific Laboratories, Ford Motor Co.

Of highest interest to oil men is the future of gas turbines for automobiles, still in the experimental stage (PW—Aug.26'55,p19). But refiners were told that the turbines have important uses in other fields—railroads, utilities, steamships, airplanes, and stationary power plants.

The Navy has found an additional use for gas turbines, as auxiliary and booster power to main steam plants when full power is desired. This is still in the experimental stage. In addition, the U. S. Maritime Administration is reported about ready to test an experimental gas turbine ship.

Union Pacific R.R. has been using gas-turbine-powered locomotives for several years. Railroad men are anxious to see if gas turbines will compete with diesel-electric motive power.

Oil men are already familiar with the use of gas turbines as compressors in pipeline operations. They are used by at least four companies—El Paso Natural Gas Co., Southern California Edison Co., Northern Natural Gas Co., and Columbia Gas Systems, Inc.

Probably the most dramatic and far-reaching developments in turbine power have been in airplanes. Now, turbojet type planes are coming into commercial use, and this will mean definite changes for refiners. Commercial airlines seem to prefer kerosine over the high-volatile jet fuels, but nothing is definite yet.

The gas turbine is simple in construction and operation. Here's how it works:

The turbine consists of three main parts—air compressor, combustion section, and turbine. Air is compressed in the compressor and forced into the combustion section (sometimes called the combustion chamber). There, fuel is injected through a nozzle so that it is finely broken up. It mixes with the air and burns, and the exhaust is forced against the turbine. Under this pressure, the turbine spins to generate power. After the gases pass through the turbine, they are re-used, usually to work the air compressor.

Researchers have found that turbine problems fall in two main categories—fuel and lubricants. Here are the findings for each problem:

• **Fuel:** Experimenters with gas turbines have used a variety of fuels—from heavy cracked distillate to highly volatile turbojet fuel. All worked, but some much better than others. And low-cost fuel must be available in quantity if turbines are to be used economically.

Esso experimented with bunker C fuel and found it highly satisfactory—except for the ash content. Heating oil and catalytic cycle stock were also tried, and found ash-free, but Esso ventured to say that the higher cost would eliminate these two from commercial consideration.

• **Lubricants:** Gas turbines operate at higher speeds than have been generally encountered before, causing a whole new set of lubricant problems.

The case of turbojet engines is an example. At first, mineral oils were used as lubricants, but these evaporated, leaving injurious deposits. Then Esso brought out a class of synthetic lubricants (made from ester-type materials) that met military specifications both here and in Great Britain.

The general use of gas turbines for cars and trucks is some way off. Automobiles have the same problems as other gas turbines, plus a lot of others.

The experiences of turbojet-engine researchers will be most valuable to auto makers because the problems encountered are of the same order. They are:

• **Fuel:** Gasoline, kerosine, and diesel fuel all appear as distinct possibilities for car turbines. The experimental models now under study are reported to be using gasoline and kerosine successfully.

• **Engine performance:** Gas turbines operate best at high speeds, while cars operate mostly at low speeds. A compromise is needed and finding this compromise seems to be one of the biggest problems car manufacturers have right now.

• **Lubricants:** Car manufacturers have the same problems as builders of aircraft jet engines, only not so severe. It appears that synthetic oils, such as those developed for the jet engines, will be used for cars. If lower-speed turbines are developed, normal high-speed lubricants may be usable.

• **Heat:** The high-temperature operations of the turbine cause severe problems for small cars. Just what's being done here is the car manufacturers' secret, but it might be linked with lowering turbine speeds.

Here's one important thing for refiners to consider in the fuel problem for auto turbines. Car turbines will appear at a time when gasoline is the best available fuel to be found everywhere. This, no doubt, will influence the manufacturers, even though they know that leaded fuels will leave deposits on turbine blades.

In that case, the manufacturers might introduce car turbines that will burn low-octane gasoline, then gradually switch models over to kerosine, and eventually to highly successful jet fuels. This would certainly please the refiners, whose plans are geared to gasoline production.

What's New / IN REFINING

Whiting Unit Moved Up

Standard Oil Co. (Ind.) has decided to speed up construction of a 14,000 b/d Ultraformer, originally scheduled for completion in 1957, as a partial replacement for the 25,000 b/d Orthoformer that was lost in the Aug. 27 fire at its Whiting (Ind.) refinery (PW—Sep.2'55,p11).

The unit, using a Standard of Indiana process, will be similar to one now nearing completion at its Sugar Creek (Mo.) refinery. The company said it would start the new Ultraformer immediately.

Indiana Standard reports that clean-up and repairs at the 200,000 b/d Whiting plant are still underway, and that refining operations probably will not be resumed before the start of next week. The company had expected to be able to start up the refinery last week.

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Power Buying Is Rising

The trend in petroleum refineries is toward use of purchased electric power when a reliable source is available, according to two reports made this week to the American Institute of Electrical Engineers' Petroleum Technical Conference in Houston.

This shift is due to the sharp rise in the ratio of electric power to steam requirements in refineries, W. E. Highfall, Esso Research & Engineering Co., reported. This rise in electric power requirements, he said, started about five years ago. Each new refinery process unit designed in the subsequent years has boosted electric power requirements. In 1950, he said, process-unit induction motors seldom exceeded 500 hp. Currently motors of 2,000 hp. to 5,000 hp. are not uncommon.

N. A. Austin, Standard Oil Co. of California, reported that, based on the company's experience of using total purchased electric power at its Vancouver (B. C.) refinery, it was planning similar systems for other refineries.

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Socony Mobil Oil Co. has awarded a contract to Arthur G. McKee & Co. for the construction of a 9,000 b/d Sovaformer at its Buffalo refinery. The cat reformer is scheduled for completion by next May.

The addition at Buffalo will represent the sixth Sovaformer to be installed by the company and affiliates. Two of these units are in operation at the Augusta (Kan.) and Ferndale (Wash.) refineries, and three others are being built.

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Continental Oil Co. will discontinue refining operations at its 3,400 b/d Glenrock (Wyo.) refinery within the next six to eight months. J. W. Liddell, Conoco vice-president, said enlarging the small plant to meet future requirements would be "economically unsound." Disposition of the plant is undecided at present, he said.

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Shell Petroleum Co., Ltd., and Canadian Eagle Oil Co. will build a 25,000 b/d refinery near Havana, Cuba, to process Venezuelan crude oil. The plant will consist of crude oil distillation and catalytic reforming units. Completion is scheduled for November, 1956. The two companies have jointly owned marketing operations in Cuba; products from this refinery will replace those now being imported.

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Union Oil Co. of Calif. has begun construction of Washington's first air-blown asphalt production plant at its Edmonds refinery. The new facilities will have a design capacity of 100 tons daily. The plant and associated warehouse facilities are scheduled for completion by the end of 1955. Total cost is $400,000.

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The Texas Co. will boost output of avgas at its Lockport (Ill.) refinery by expanding capacity of the alkylation unit from 3,200 b/d to 4,400 b/d. Completion is scheduled for next April. Last week, a 10,850 b/d Platformer was placed on stream at this refinery.

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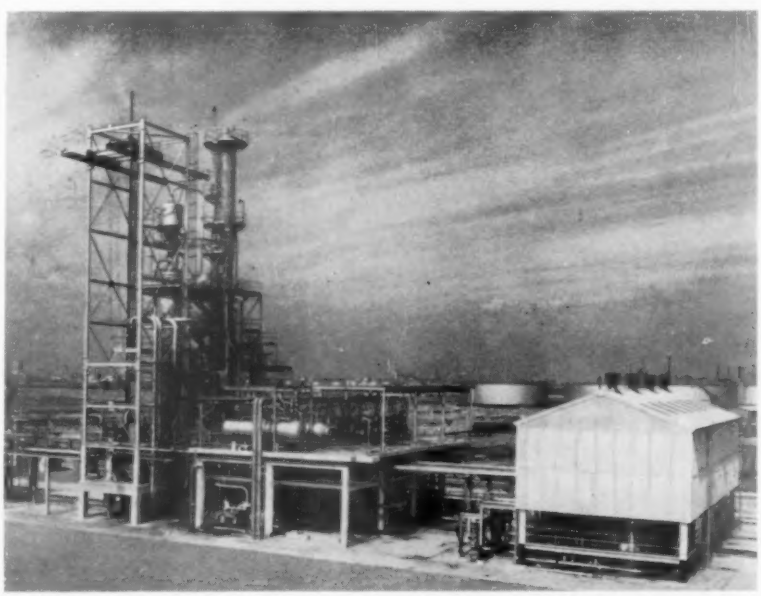
Magnolia Petroleum Co. will build a natural gasoline plant near Attica, Kan., to process about 40-million cu. ft. of gas daily from the Grabs field in Harper County and the Spivy area in Kingman County.



Hydrodesulfurizer Goes on Stream

The first hydrodesulfurizer unit has been placed on stream at the Stanlow Refinery of Shell Petroleum Co., Ltd., at Cheshire, England. The unit removes sulfur from petroleum by the "trickle" process developed by the Royal Dutch Shell research organization. The technique is so named because the oil to be desulfurized, with hydrogen, "trickles" over a special catalyst bed. Sulfur is converted to hydrogen sulfide, which is separated from the oil and reduced to sulfur.

New Colombian law offers . . .

Special Lures to the Llanos

Colombia has issued a new decree law aimed at improving its competitive position in attracting oil investment. The new law establishes 50-50 profit-sharing, increases depletion allowances, and offers special incentives for exploration of the undeveloped Llanos in the eastern part of the country.

The latest decree modifies the controversial law issued last March and divides the country into eastern and western oil zones, with special provisions for each. All of Colombia's current oil production (about 109,000 b/d) comes from the western zone. But the eastern, Llanos area, encompasses some 23-million acres, about half of the country's prospective oil lands. No oil has yet been found in this wild and remote section.

Until now, there has been no specific 50-50 profits split in Colombia; the government's take has ranged from 54% to 62%.

Henceforth the maximum for commercial exploitation started in the western zone—including income tax, excess profits taxes, and royalty—is set at 50% of taxable income plus royalty. The minimum is 40%. In the eastern zone the government's total receipts are fixed at a ceiling of 40%, with no minimum.

In the western zone, the period for exploitation concessions remains at 30 years, with a possible extension for 10 years. In the eastern area, however, the period has been increased from 40 to 50 years, and the extension period from 10 to 20 years.

Depletion allowance in the western zone remains at 10% but is raised to 12½% in the east. The new decree retains the additional allowance of 15% of gross income to cover exploration expenditures outside of existing producing concession areas.

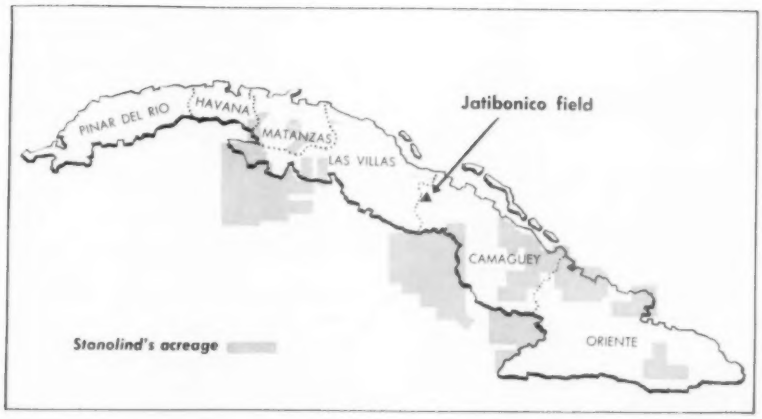
In the western zone, both allowances together are limited to a ceiling of 35% of net taxable income, but for operators who start producing commercial oil in the western zone after this decree, the 35% limit will be increased to 50% of net taxable income. The new law increases the minimum level of expenditure for application of the 15% allowance from $600,000 to $800,000.

In the eastern zone, the additional 15% brings the total to 27½%, which is not to exceed 50% of net income less royalty payable. Exploration surface tax will be suspended where drilling is undertaken in the eastern zone. Royalties, which previously varied throughout the country from 3% to 13%, depending on distance from the coast, are fixed at a flat 3% in this area. Tax on any pipelines built in the Llanos is reduced by the new decree from 4% to 2% of deemed income, as compared with 6% elsewhere.

New Pipeline to Bring Products to Colombian Industrial Center

Colombia's bustling manufacturing center around Medellin has now been opened up as an oil-products market by completion of a new 6-in. products line connecting with the 30,000 b/d Barrancabermeja refinery. Until now this industrial area midway between Bogota and the Panama border has received petroleum products entirely by railway. The $5-million line, built by Williams Bros., stretches 112 mi. from Puerto Berrio on the Magdalena River through a mile-high pass in the Andes to Medellin. It connects at Puerto Berrio with an existing line that brings products from Barrancabermeja.

Williams was faced with formidable construction problems in executing the line. Dense jungles (picture, left) and torrential rains impeded construction before the line was pointed up the side of the Andes, where landslides typical of Colombia's virtually rock-free earth (right) were a constant problem during construction. Workers also faced extremes of cold in mountains.



Stanolind Signs for Cuba Search

Last week Stanolind Oil & Gas Co. announced signing of a contract with two Cuban oil groups for exploration of a 12-million-acre concession in southern Cuba (map). Conclusion of the contract negotiations, which had been pending for some weeks (PW—Aug.5'55,p30), was announced by E. F. Bullard, president of the Standard Oil Co. (Ind.) subsidiary.

The Cuban groups involved are Cuban Venezuelan Oil Voting Trust, a management group for 24 companies controlling 17-million acres in concessions, and Trans-Cuba Oil Co., which holds a 50% interest in CVOVT. Heading the two Cuban companies are Warren W. Smith, former president of Pantepec Oil Co., chairman of CVOVT, and Dr. Viriato Gutierrez, president of Trans-Cuba.

Under terms of the contract, Stanolind will earn a half-interest in concession rights on all 12-million acres after exploration expenditures hit the $10-million mark. The company must spend at least $2-million on exploration by Jan. 1, 1957, to keep the agreement in force. Thereafter Stanolind has the option of continuing the agreements either by drilling 40,000 ft. of hole in each 12-month period, or by spending another $2-million for exploration (that includes cost of drilling). Stanolind has the right to pull out of the deal any time it wants to, subject to a contract forfeit penalty. The company will retain a half-interest in any productive well it brings in, and also in approximately 80,000 acres around the well.

The concession area which Stanolind acquires covers both onshore and offshore sections in the provinces of Matanzas, Las Villas, Camaguey, and Oriente. Concession rights to these areas were granted to the CVOVT group and Trans-Cuba by the Cuban government, and Stanolind will serve as operator for the 12-million acres involved in the new contract.

Stanolind says it is planning an extensive geophysical program on the 12-million-acre concession, using both seismograph and magnetometer surveys. It has not announced when it will start geophysical work; that will follow completion of an aerial mapping program scheduled to start soon.

Considerable offshore acreage is involved in Stanolind's concession area. Long-range plans will undoubtedly involve offshore drilling and exploration in the Caribbean, although these will naturally depend on successes on the coastal strips.

In Havana recently, Jose Bosch, an executive of Trans-Cuba, made a surprise advance announcement of the closing of his company's contract with Stanolind. The two companies, he said, would spend no less than $15-million on drilling and exploration work. Other companies operating in Cuba, Bosch added, would be spending a minimum of $20-million on oil exploration in the next five years. This $35-million program would make it possible for Cuba to cover domestic petroleum needs in that time, he said.

The Stanolind contract is the biggest oil deal concluded in the past years' rush to Cuba. Since the May, 1954, discovery of the Jatibonico field, the 44,000 sq. mi. island republic has been solidly packed with concessions either granted or requested. About 15,000 sq. mi. of offshore areas also have been sewed up.

Currently the Jatibonico field is producing about 1,000 b/d of Cuba's total estimated output of 1,200 b/d. Some 24 wells have been drilled in the Jatibonico area alone since discovery of the field. Sixteen are producers. In the last year, five dry holes were drilled outside Jatibonico, and two producers were completed near Havana, where production has not yet been evaluated. Six new wells are currently drilling.

Discovery of the Jatibonico field turned exploration interest toward the southern side of Cuba, where there is now the greatest concentration of exploration activity. Earlier surveys, executed about 10 years ago by CVOVT and others, had disclosed promising structures on the south coast, where there was evidence of oil from many seeps and surface layers of asphalt. Recent deep-test drilling by Trans-Cuba at Sancti Spiritus, in this area, was still in good Tertiary sediments at 9,000 ft. The well went into volcanics at 9,600 ft. Until this uncovering of thick Tertiary sections, geologists had considered the south coast covered by a thin Tertiary section of 1,000-3,000 ft. that was not promising for oil prospection.

Stanolind's huge-scale venture into Cuba adds one more operator to the many companies already engaged in the country's bustling oil search. Other large concession holders include: Cuban Canadian Petroleum Co., Pacific Petroleums Ltd., Siboney Development & Exploration (recently formed by Crescent Corp. and Sterling Oil), Cuban Gulf Oil Corp., Atlantic Refining Co. of Cuba, Richmond Petroleum, Cuban American Drilling & Exploration Co., Cuban Colombian Petroleum Corp.

Cuban American, a Texas independent, is already drilling about 8 mi. northeast of Jatibonico. Atlantic is working on geological and seismic surveys. Gulf is evaluating a core drilling program completed last spring and planning a deep test in Las Villas. It's currently involved in geological and seismic work. Shell has renewed its seismic survey program after considerable unsuccessful drilling done between 1932 and 1952.

While exploration continues or gets under way all over Cuba, refining facilities, too, are being expanded. Three existing plants total 8,000 b/d capacity, but projects planned or under way will increase capacity tenfold in the next few years. Esso plans to expand its 6,500 b/d plant at Belot, near Havana, to about 30,000 b/d. Shell will start construction soon on a 25,000 b/d refinery at Havana Bay (page 21). The site is already prepared, and completion is expected by early 1957. The Texas Co. has announced plans for a 20,000 b/d plant at Santiago de Cuba on the southeast end of the island. All three are planned to operate on imported crude oil. There are currently two smaller refineries operated by Cuban interests at Cabaiguan (1,000 b/d) and Jarahueca (200 b/d).

What's New / ABROAD

Oil Fight Enters Last Round

ARGENTINA—Last weekend the Peron government sacked the four highest officials of its oil monopoly organization in a bitter effort to knock out all opposition to its pending oil contract with Standard Oil Co. of California (PW—Aug.19'55, p23). The controversial contract must be approved by Congress before it adjourns Sept. 30. If it's not approved by then the contract automatically expires.

Inside sources say the four dismissals from Yacimientos Petroliferos Fiscales are only the beginning. More than 200 others are said to be marked for dismissal, with the implication that the government is aiming at partial dismantling of the YPF organization.

Important members of the Peronista party are banding together with congressmen and high government officials for a tough battle to push through the Socal contract, on which only slight modifications have been made. But terrific political opposition has suddenly spread even into the ranks of ministry officials and the military, who, for the most part, have up to now sided with the Peron effort to get foreign capital into development of Argentine oil resources.

Sources in Argentina insist the government will stop at nothing to push the contract through within the next two weeks.

Approval of the Socal contract would take the form of a special "contract law," which would apply to this instance alone without distributing the country's essentially monopolistic oil policy. However, it is expected to establish a precedent for other contracts now under consideration. Recently, Standard Oil Co. (N.J.) submitted a proposal for oil development similar to Socal's, and Royal Dutch Shell has been studying the matter since the late 1953 invitation from the Peron government for private foreign capital to develop Argentine oil.

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More Oil-From-Coal ?

SOUTH AFRICA—On the eve of commercial production from the country's first oil-from-coal plant, the government has announced it is considering establishment of a second unit. Governor General Dr. E. Jansen said the government is contemplating a similar installation as part of a $1.5-billion industrial development program for the northern and eastern Transvaal.

The first gasoline has now been produced at the Sasol plant in the Orange Free State (PW—Jul.8'55, p35). Dr. Frans du Toit, chairman of the government-owned Suid Afrikaanse Steenkool Olie en Gaskorporasis Beperk Ltd., said recently that it will probably be marketed in October. Originally scheduled for July, production was delayed when one of the huge oxygen compressors exploded and had to be replaced. When the plant is completed late this year by M. W. Kellogg Co., it is expected to turn out 71-million imperial gal. of products annually, of which 55-million will be gasoline. The gasoline will be of premium grade, but will sell at about 1¢ a gal. less than standard grades. About two-thirds of Sasol gasoline will be purchased and marketed by existing oil companies; the balance by Sasol itself. At full capacity, the plant will supply about one-fifth of South Africa's needs.

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Oil Equipment Financing

MEXICO—Several U.S. manufacturers of oil equipment have applied for financing of export sales to Petroleos Mexicanos. No contracts have yet been signed with Pemex, but applications for assistance in financing sales to the Mexican oil entity have already been made to American Overseas Finance Corp. Pemex has scheduled a heavily expanded drilling program for next year (PW—Jul.29'55, p29), and the sales presumably involve drilling equipment.

AOFC confirmed in New York that it is "looking at" inquiries from exporters interested in selling to Pemex but did not identify the manufacturers involved.

AOFC, a five-bank operation, started

Papua Site Ready for Drilling

After a long battle against New Guinea's jungles and torrential rains, a new drill site at Kuru, in Papua, has been readied for operations. This is one of two new sites planned for drilling by Australasian Petroleum Co. and Island Exploration Co., which are controlled jointly by British Petroleum and Standard Vacuum (PW—Sep.9'55,p25). The jungle has been cleared and a narrow-gauge railway laid to carry materials from the store houses to the site (above). The 7-mi. access road from the nearest river took 17 months to build in the heavy rainfall and dense jungle. The drilling rig is being brought to Kuru by river from Omati 1, a test well that encountered high pressure gas at 13,743 ft. in 1953. Since 1936 the two companies have drilled a total of nine wells without striking commercial quantities of oil. Currently, only one well is being drilled.

the end of June as the first private institution specially organized to supply financing facilities to U.S. manufacturers and exporters. Its aim is to enable them to offer longer-term credit to customers abroad for productive capital goods.

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COSTA RICA—A $3.5-million oil refinery project proposed by an unidentified U. S. company has been submitted to the Legislative Assembly for approval by the Consejo de Gobierno, a government advisory agency (PW—Aug.5'55,p31).

The proposal, which the U. S. Commerce Dept. confirmed, calls for a 4,000 b/d plant to process duty-free imported crude. Its chief aim, according to the sponsors of the legislation, is to save dollar imports of gasoline, kerosine, and other oil products. Costa Rica's consumption of refined products currently, however, is only about 2,200 b/d. Surplus production presumably would be available for export to other Central American republics, but U. S. oil men in Costa Rica believe sales and transport abroad would be difficult. Action on the proposal may be expected in a few weeks; the U. S. Commerce Dept. says approval is unlikely.

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IRAQ—Crude oil production in July totaled 2,631,605 tons for a daily average of about 636,678 b/d for Iraq Petroleum Co., Basrah Petroleum Co., and Mosul Petroleum Co. According to statistics released by IPC in London, this brought total output for the first seven months of 1955 to 18,464,346 tons, or an average of about 623,796 b/d.

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COLOMBIA—A group of U. S. independent oil interests is reportedly considering investing capital in Empresa Colombiana de Petroleos, the government oil company. Ecopetrol reported "favorable progress" on discussions but did not identify the group. The company was formed in 1951 to take over Tropical Oil Co.'s de Mares concession when its lease expired. It is said to be eager to get financial support in expanding its development program.

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FRANCE—A five-year exploration program covering 7,720 sq. mi. in the Paris Basin will be undertaken jointly by French and American interests. According to an announcement issued by American Overseas Petroleum France SAF (Amofrance) and Societe Nationale des Petroles du Languedoc Mediterraneen (PW—Sep.9'55,p25), the area will be divided into four sections of 2,430 sq. mi. each, on which two seismic crews will start work immediately. Amofrance is owned by California Texas Corp., and SNPLM is owned half by the French government, half by French private capital.

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VENEZUELA—U. S., German, and Italian firms reportedly will get contracts for construction of two units of Venezuela's $30-million petrochemical plant at Moron, near Puerto Cabello. The Ministry of Mines reports that preliminary studies on construction of the units for manufacture of fertilizers, chlorine, and soda are completed. No official announcement of awards will be made until later this month, but Montecatini of Italy is reliably reported to have secured part of the contract.

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COSTA RICA—No action was taken by the Legislative Assembly on the proposal from Union Oil's subsidiary that its contract be modified to permit drilling up to the Panama border (PW—Sep.9'55,p24). The extraordinary session of the Assembly ended with the proposal bottled up in committee by nationalistic elements who objected to eliminating the 1 km. prohibition. But it will come up again in the regular legislative session that's just now convening.

Meanwhile, Bris 1, the company's third Costa Rican wildcat, is drilling below 1,200 ft. 35 mi. west of Puerto Viejo, near the Panama border. Joel Lloyd, general manager of Compania Petrolera, says the company hopes to step up drilling to 300 ft. per day from now on. Bris 1 is on a structure that extends into the prohibited area near the Panama border and over into Panama. The company has pointed out that if this well is a failure it may have to shift drilling into Panama. Currently Union Oil is doing exploratory work in Panama on a concession held since 1953 that includes the province of Bocas del Toro. There are no border restrictions in the Panama agreement.

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INDIA—Southeastern Drilling Co., of Dallas, will probably contract for drilling in the Bengal basin as soon as Standard Vacuum Oil Co. selects a drill site. Exploratory parties have been actively working on Stanvac's 10,000 sq. mi. concession in West Bengal in the past year. The Indian government holds a 25% interest in the operation. Stanvac may also contract the services of a second company for drilling in Bengal, as well as in its Pakistan concessions, which include 10,000 sq. mi. each in West Pakistan and East Pakistan.

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JORDAN—Geological work will be started in about a month by Edwin W. Pauley Co., of Los Angeles, on the concession area recently granted by Jordan (PW—Jul.8'55,p50). Last week Edwin Pauley, Jr., was enroute back to the U. S. from Jordan, where he discussed with Premier Said el Mufti the details necessary to implement the contract. The final concession area will embrace about one-third of Jordan's total 12-million acres.

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ITALY—Amendments for Italy's much-debated oil law are being formalized by the Ministry of Industry to be presented to Parliament for debate (PW—Aug.5'55,p30). The main provisions to be included in the amendments reportedly include: encouragement of foreign capital participation in oil search; confirmation of right to convert exploration permits into exploitation concessions; maximum limitation of concessions to 50,000 hectares (123,500 acres); limitation of concessions in any one region to any one company or associated group of two noncontiguous areas; and similar regulations to govern both government and private oil investment in all mainland areas other than the Po Valley, where the ENI state monopoly would be retained.

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UNITED KINGDOM—A 24% rise in use of fuel oil in the first six months of 1955 highlighted the over-all increase over last year in consumption of petroleum products. According to statistics released by the Petroleum Information Bureau, fuel oil use rose to a total of 2,768,244 tons as compared with 2,228,054 tons last year. The increase resulted from growing industrial activity, coupled with greater use of oil to meet expanding fuel needs.

Total inland consumption of oil products for the six-month period increased 13%, to 11,626,662 tons. Deliveries of motor gasoline rose to 2,973,342 tons, a 6% increase over last year. Greater sales of premium grades largely accounted for the increase; premium grades now make up 49% of all motor gasoline deliveries.

Aluminum Cans OK – But

Esso Standard Oil Co. is convinced aluminum makes a good motor oil container. The company isn't ready, however, to shift from standard blackplate (light-gauge steel)—not until questions of cost and supply can be analyzed further.

Esso tested thousands of one-quart aluminum cans this summer at service stations in Virginia (PW—Aug.5'55, p33). And test results reported last week give aluminum a higher performance rating than steel.

A. D. (Doug) Murphy, Esso's packaging chief, says the aluminum cans arrived at the refinery in fine shape. They proved capable of being filled and packed at the same high speed as steel. And when they arrived at service stations, dealers found fewer "leakers" and dented cans than in similar shipments of steel cans.

Furthermore, the dealers like the aluminum can's looks. They like its coloring and the way its printing stands up. They also like the way it weathers daily outdoor exposure on the pump islands. The fact that motorists took little notice of the new cans, and bought not a drop more of oil than usual, didn't dim their enthusiasm.

The company is enthusiastic about aluminum's freight-savings possibilities. Even so, Esso insists initial can cost must be comparable to that of steel. And it won't commit itself until several can companies are making aluminum containers at that price.

Case for case, motor oil in aluminum cans weighs about 6 lb. less than it does in steel cans. Esso says this factor produced "some definite savings" in transportation costs, but it won't say yet just how much.

As for initial can costs, Esso paid 4.2¢ per can for the aluminum containers, the same as it pays for steel. But the company isn't sure yet that it can continue to get aluminum cans at the same price as steel.

Esso says that until it gets assurance of a varied source of supply (it buys steel cans from four different companies), there can be no decision about aluminum no matter what the freight savings amount to.

The major can companies say making aluminum containers for motor oil is no problem. But under present conditions they see the aluminum cost factor as an obstacle.

Can company spokesmen say they'll make containers out of any metal the customers demand. And they say retooling for aluminum would involve few complications and little extra expense. But sheet for sheet, they say, aluminum is "a lot higher" than steel in price.

They're interested in seeing if aluminum companies can give them the material cheap enough to let them make cans competitive in price to those made of blackplate.

Reynolds Metals Corp., which provided the cans for Esso's tests (at the price of steel cans), is optimistic about the results.

The salvage value of aluminum may be the key to the quandary. Can-crushers helped Esso dealers resell their aluminum empties, so the metal made its way back into the industry instead of into the dumps.

Each dealer in the Esso test bought one of the crushers, which compresses a can vertically to one-tenth the space it normally occupies. The standard unit, priced at $80, sits over an empty 400-lb. grease drum. A de luxe unit, for about $120, uses a similar-capacity white cabinet. Reynolds helped some of the dealers find outlets for the aluminum scrap. There was little difficulty in salvaging the metal in its convenient bulk state.

But the can recovery program, at least in the Esso test, was strictly a dealer operation. Esso feels it has to sell its motor oil to dealers at the same price, whether the oil is in aluminum or steel. The company doesn't want to sell a higher-price can to the dealer on the proposition the dealer can get back the difference by selling scrap.

Aluminum suppliers, on the other hand, would prefer to get company participation in a salvage program, insuring a more efficient operation. Again, Reynolds is confident a solution can be worked out.

The dealer's investment in a can-crusher, incidentally, isn't wasted, whether aluminum wins its rivalry with steel or not. The crushers work just as well on steel cans. And even if the steel empties can't be sold, they can be compressed into less storage space and they can be hauled to the dumps in far fewer loads (some dealers pay as much as 75¢ per bbl. to have their empties carted away).

Esso, meanwhile, is conducting other tests of aluminum—as a container for exported motor oil.

In this test the cans being used are square. They not only reduce the shipping weight but also the shipping space required, the latter by about 32%.

(One reason why the square cans were not used in the domestic test may be that square cans are customarily filled more slowly at the refinery than round ones. They have a tendency to splash in the high-speed operations of centrifugal-type loading machinery.)

Other oil companies are also showing interest in the new prospect for aluminum. Esso has a head-start in the field. But if it does switch to aluminum for motor oil marketing, probably the rest of the industry won't be far behind.

What's New
IN MARKETING

The Justice Dept. is debating a Federal District Court decision returned last week in favor of tire makers and the oil industry's large-volume tire buyers (PW—Sep.2'55,p16).

The Federal Trade Commission has tried to limit discounts to a carload basis. The tire makers, though, argued that FTC had acted wrongly in not presenting, before its ruling, a proper set of findings that would have enabled further hearings. Judge Alexander Holtzoff, Washington, D. C. district, agreed.

The Justice Dept., which defended the FTC ruling, has until Nov. 6 to decide whether it will appeal Judge Holtzoff's decision, drop the issue, or recommend that FTC begin all over again.

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Standard Oil Co. (Ind.) is offering its customers a guarantee against radiator freeze-ups this winter. First, a motorist must submit his vehicle's cooling system for inspection, and pay for any repairs needed. Then the system is set (with a permanent-type antifreeze) for whatever temperature the motorist specifies—down to 40 below zero. After that, any Standard dealer the motorist visits is required to keep the vehicle's system at the guaranteed protection level, a service for which the dealer is reimbursed by the company.

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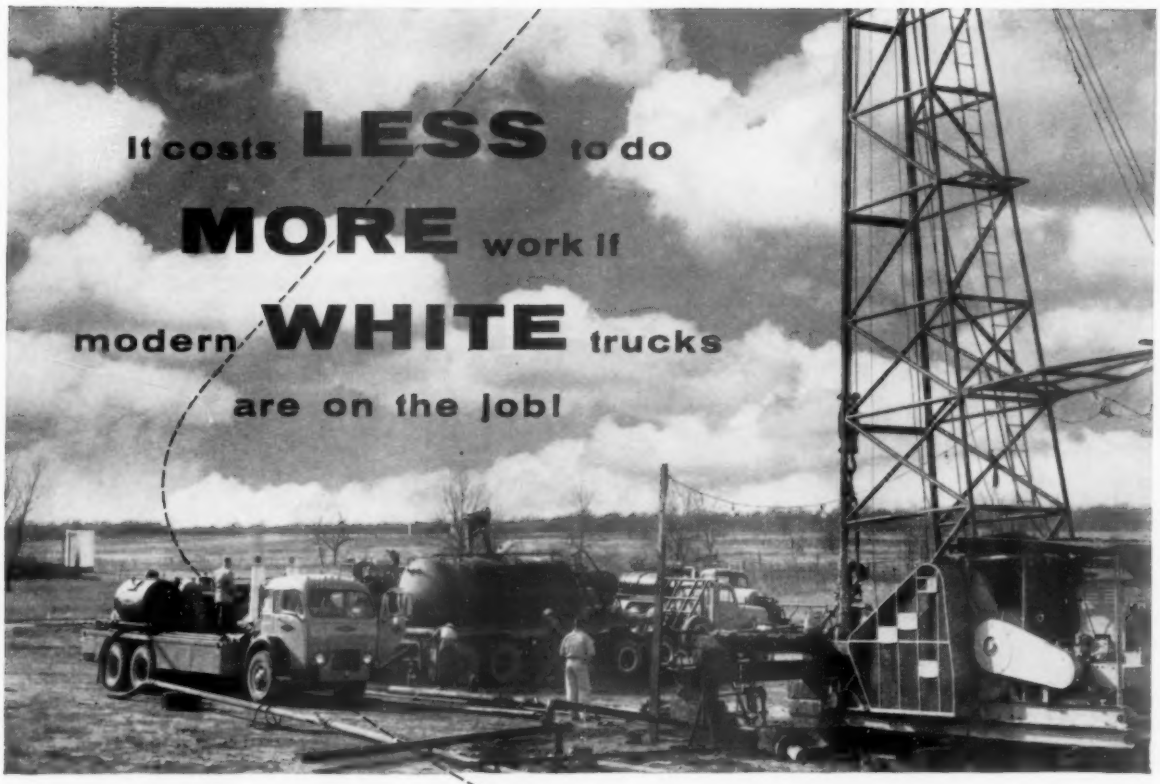
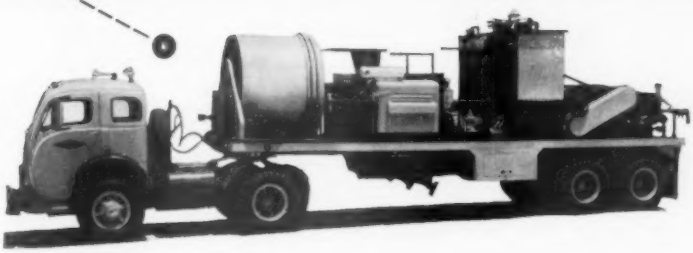
McKales Corp. has canceled its plans to lease its 43 service stations to Union Oil Co. (PW—Sep.2'55, p17). Thomas G. Wise, McKales president, was scheduled to give stockholders reasons for the company's about face at a meeting this weekend.



WHERE there are tough hauling jobs . . . or very special work in out-of-the-way places, call on the best—call on WHITE!

Look at the experience of leaders in every kind of business from coast to coast—you get more out of your transportation investment if you turn the job over to dependable, efficient White Trucks.

See these Specialized Whites in the service of Dowell Incorporated of Tulsa, Okla., then get full details from *your* White Representative. You'll get your work done faster and better . . . and at lower cost . . . with quality Whites!



Special Jobs Need White Trucks tailored to the exact work conditions. These White 3000's used in oil well acidizing and fracturing—off the road where the going is tough—others haul highly specialized pumping and control equipment for Chemical Cleaning Work in all industries.

Dowell also used Modern Whites on Chemical Cleaning Jobs

DOWELL industrial division has highly specialized pumping and control equipment mounted on White Trucks for chemical cleaning operations. Maneuverability and safety advantages of the new White 3000's operating in plant areas are important to save time and get work done efficiently—get plants back in operation soon as possible.

White

THE WHITE MOTOR COMPANY • *Cleveland 1, Ohio*

FOR MORE THAN 50 YEARS THE GREATEST NAME IN TRUCKS

From an oil man who knows oil men . . .

Listen to Your People

L. T. White has spent 40 years talking to businessmen about their "people" problems. Today he is manager of Business Research & Education for Cities Service Petroleum, Inc. His sole assignment—unique in its scope—is to help the company's business customers find solutions to their problems. Over the years he has sat down with thousands of oil men. Out of this experience come these conclusions . . .

The greatest opportunity for the oil industry today lies in better human relations. The importance of understanding people exceeds the potential of new wells, better refineries, and the best sales techniques.

It's a job for everyone, from the office boy to the production superintendent, to the refinery foreman, to the salesman—all the way up to the very top.

The greatest waste in the oil business today is caused by friction between people. It can lead directly to frustrations, alcoholism, ulcers, and worse. Even when your people are merely careless or indifferent, you get sloppy work in the office, and accidents and equipment breakdowns in the field. All the protective devices in the world are no good if your employees aren't with you. And despite some effective programs, the oil industry has only scratched the surface of the job of reaching people's minds and hearts.

The payout from good human relations isn't just a friendly atmosphere. It's dollars and cents. For your company it means lower employee turnover, more output per dollar of payroll, fewer complaints by customers, and fewer demands by the union. If you yourself can work with people, you'll be marked for leadership. You won't have to pull any strings. The people who work for you will push you up.

The secret to good human relations? In one word: Listen. Listen to your people. Honestly find out what's bothering them, instead of taking the attitude, "The boss likes what I'm doing, so you can go jump." And apply their criticism. The biggest hurdle is to admit that you can learn from someone under you.

But you may have to dig for the truth. Most people working under you will tell you how good you are, and keep criticism to themselves. Some companies do their listening through open meetings, or through person-to-person talks. Some use exit interviews with men who have quit and are willing to speak out. One company actually gets the wives together to find out exactly what they think of the company and their husbands' jobs. Whatever the system, you need to get honest opinions out into the open.

Allow other people to feel important. Convince them the company really needs their work, and they won't try to cut corners. There's the case of the oil company official who was asked why he worked so hard. His reply: "I like to move in on a situation and get the satisfaction of cleaning it up."

Think that's abnormal? All people like to clean up problems. So why not let them do it? Why not let more people who work with you have such satisfaction? That same official later listened to what his people wanted, delegated a lot of authority, and now has his staff humming.

You can't get real results unless you're polite and decent. You have to be humble and grateful and nice to those who work for you. You have to believe in it, and not just slap it on. And you can't tell how you rate behind a closed door.

Listening to people leads you directly to good supervision, which is where the real progress lies. The principles are simple. People under you want to be treated as individuals. You can't get anywhere by assuming all drillers are the same, or all service station men. And there's a lot more to it: praising good work, sharing mistakes, criticizing in private, planning together.

The "rules" for good supervision aren't locked up. They are available for the asking in printed material and training courses. Many big oil companies are talking human relations to their employees.

Smaller companies — independent producers, refiners, and distributors— can originate their own programs, as many of them have done. They can take advantage of help from the U.S. government and state and city education officials. All it takes is a phone call or a letter to the nearest school superintendent, or to the state department of education.

Here's a real case history of how it can work out:

In an oil company division office, employee turnover was rising. New employees said they were impressed by the place, the hours, the job. Six months later, half of them were gone. The staff was quoting W. C. Fields: "If at first you don't succeed—quit."

The division manager analyzed complaints, and decided faulty supervision was the trouble. And he was smart enough to ask for help. He was directed to the city department of education. It sent over a woman, armed with a course in supervision. She got all the supervisors of the

office together. She drew a face on a piece of paper, with two eyes, a nose, and a mouth with the corners turned down. She said, "That's you. What kind of enthusiasm will you get with a face like that?"

One supervisor said, "We came in looking like that because we were determined to get the work out on time."

She said, "But you didn't, did you?"

Her course in supervision was so successful that it was moved over to other offices in the division. And the manager caught the eye of headquarters.

Human relations carries over to dealing with customers. Take the jobber who was griping because a competitor gave away an oil burner to get an account. Instead of sounding off, he could have been asking, "What am I doing for people? Am I doing a better job of keeping them warm?" The best equipment and products in the world can't beat a man who asks questions like that.

Your employees will thank you if you decide to go ahead. And you'll get the respect of that field man who complained of "stupid front-office thinking," and added:

"When are they going to stop taking people for granted?"

What's New / IN MANAGEMENT

Future petroleum engineers will get broader college training in how to find crude oil, under a new program of Core Laboratories, Dallas. The company is donating core analysis equipment and reservoir fluid apparatus to Texas A&M College, the University of Texas, and the University of Oklahoma. Core Lab's men also will help the students by providing technical advice.

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Canadian Oil Companies, Ltd., which has been making rapid strides in refining and marketing, is now getting its own crude supply. Its offer to purchase the producing company, Anglo-Canadian Oil Co., Ltd., has been accepted. The deal brings oil reserves of 13-million bbl. in western Canada.

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Two producing companies active in Canada, Montana, and Texas may join forces Sept. 27. That's when stockholders of Amurex Oil Development Co. will meet in Chicago to vote on the proposed purchase of the Canadian company, Ponder Oils, Ltd.

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Shift in control of Wilshire Oil Co., Los Angeles refiner-marketer, will result in an aggressive expansion drive. An agreement has been reached for the purchase of controlling interest by Robert Anderson, of Malco Refineries, Roswell, N.M.

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Oil management will need to double advertising expenditures by 1965, the agency, Foote, Cone & Belding, predicts. The firm's view is that oil men will need to spend more to reach bigger markets, since population is increasing by 220,000 a month. The agency thinks the present $31-million annual spending by the 14 leading oil advertisers will rise to $57-million in 10 years.

BUTANE - PROPANE - NATURAL GASOLINE

can be economically produced from as little as 1 million cubic feet daily of rich natural gas with

"RUSSCOLD" MICRO PLANTS

Russell Engineering small semi-portable plants insure maximum recovery and economical processing of natural gas in quantities from *1 million to 25 million cubic feet daily.* "Unitized" designs permit fast construction and easy moving . . . special features allow practical cold weather operation with minimum attention.

For further details on Russell Equipment contact:

RUSSELL ENGINEERING CORPORATION

2609 SUNSET BOULEVARD HOUSTON, TEXAS

"DESIGNERS AND BUILDERS OF SPECIALIZED GAS PROCESSING EQUIPMENT"

It may be 1959 before industry feels . . .

Seaway's Effect on Oil

Oil men looked on with quiet and unexcited interest last week at the news that the St. Lawrence Seaway project is well under construction. Reason: They realize it will be four years—1959—before the ambitious project will affect them and their businesses. And even then it won't affect them much.

PETROLEUM WEEK asked numerous refiners, marketers, and transporters last week what they think might happen once the big seaway project is completed and opened to traffic. Here is what these oil men see:

No imported crude is likely to be brought up the seaway—except in times of a national emergency. Oil men see no chance for foreign or domestic products working their way up the seaway into the lakes region, either. This is because oil economics necessarily are tied to large bulk movement.

No new refineries will be necessary for some years to come, despite the rise in demand, because existing facilities are now considered ample. Current talk for the most part centers on additions to marketing and distributing facilities—such as new bulk plants, and more tank trucks to handle products locally, and some new service stations.

Oil transportation won't be affected. There are three chief reasons:

(1) The trend in transportation of petroleum on the Great Lakes is away from the waterways to pipelines. This is true of crude and products movements both in the U. S. and Canada.

(2) Depth of the new seaway will prevent use by large ocean-going tankers. It will have a 27-ft. draft limit, whereas about 35-ft. is required to handle most tankers that ply between seaports. However, tankers of new design could help solve this problem.

(3) Tolls and a large labor factor must be considered. Tolls are expected to be small, perhaps only 0.25¢ per bbl., but they still constitute a factor that must be included in estimating total transportation cost. Ships operate with three full-time crews, which means a large added expense compared to labor involved in pipeline movement—especially since tankers would be moving through locks, and time of transit would boost the labor figure.

Markets will be greatly expanded. This will be particularly true in Ohio, New York State, Ontario, and Quebec. Potential new oil markets are seen from Montreal, Que., to Hamilton, Ont., on the Canadian side, and as far west as Toledo or Detroit in the U. S. Many new communities of people are expected to spring up.

New industrial plants will be built in the lower Great Lakes region and the St. Lawrence Valley. This industrial expansion will be gradual but it will be substantial and long-lasting. Oil men anticipate new petrochemical, steel, chemical, metal-fabricating, plastics, and food-processing plants. The need for home heating oils will thus be increased in these areas, and industrial and population growth together will boost consumption of gasoline for trucks and passenger cars. Oil men feel any startling changes on the industrial scene are not likely to take place before the project is finished, although activity is already reported to be picking up in the seaway area. It's expected to continue at a high level during the construction period.

There will be a big demand for diesel fuel and bunker oil, as lake traffic increases after the seaway is opened. One forecaster expects bunkering at least to double, perhaps to treble, by 1960. Montreal, Milwaukee, and Chicago are pictured as principal bunkering ports for ocean-going cargo ships. The seaway will not be deep enough to handle the big tankers all the way.

Vessels are expected to refuel at Montreal twice—for the trip up the lakes, and for the return ocean voyage. Most oil companies won't estimate the increase in bunkering anticipated, preferring to wait and see how much new traffic is actually generated by the seaway. Nevertheless, they will be prepared to build new storage at main points of call when the need arises.

What's New / IN TRANSPORTATION

A battle involving the regulation of "direct sales" of natural gas is shaping up between the Colorado Public Utilities Commission and Colorado Interstate Gas Co. Crux of the conflict is Colorado Interstate's offer to supply natural gas to a new $2.5-million plant of Pabco Products, Inc., at Florence, Colo., on a "direct sales" basis via a pipeline built especially for the plant.

Normally, Colorado Interstate wholesales its gas to local utilities for distribution to consumers. But it does supply gas direct to the Colorado Fuel & Iron Corp. steel mills at Pueblo, and to other industries in the Denver area.

The PUC asked Colorado Interstate to explain why its "direct sales" should not be subject to PUC regulations. The commission feels direct sales are competition for the public utilities, and it doesn't want to set a precedent that would allow a wholesaler to compete with his own retailers.

And a Florence utility, Midwest Natural Gas Co., has asked the PUC for permission to serve the Pabco plant.

Construction of more than 4,900 mi. of natural gas pipelines was authorized by the Federal Power Commission in the year ended last June 30. When completed, the lines will add approximately 1.7-billion cu. ft. of gas to the nation's daily delivery capacity, and will have cost about $465.3-million to construct. The 1955 total mileage falls nearly 25% below the 1954 figure of 6,500 mi. authorized.

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The Tide Water Associated Oil Co. will enlarge storage capacity of its bulk sales terminal at Portland, Ore., to handle 625,000 bbl. of petroleum products, a 25% boost over present capacity. Besides storage tanks, the additions will include a plant office, a truck loading rack, a TBA warehouse, and larger pipelines for receiving oceanborne products. Tanks, pipelines, and loading rack will be completed in December, and the rest of the plant will be finished in March. The terminal serves Oregon, southwestern Washington, and the Lewiston area of Idaho.

The Market Trend

Whiting Fire Rallies Oil Markets

Now that the smoke has cleared, it's plain that Indiana Standard's fire at Whiting came as a heaven-sent new sales outlet for a lot of Midwest refiners. The down-time at the Whiting plant was tagged instantly by traders as a more far-reaching market factor than the actual losses by fire. The blaze (PW—Sep.2'55,p11) consumed 179,000 bbl. of gasoline, 56,000 bbl. of kerosine, 98,000 bbl. of distillate, and 401,000 bbl. of residual. But, starting Aug. 27, every day the refinery was idle for repairs meant a products deficit of about 200,000 bbl.

Gasoline markets were the first to feel the impact of the explosion. Before the flames were extinguished, offerings to Standard started pouring in. From Lockport, from Lawrenceville, from Chicago, from Wood River, other Midwest refiners laid on the line about 2-million bbl. of gasoline alone. And, fluid as oil markets are, this surge of supply meant stepped-up pipeline shipments throughout the Midwest. It spelled capacity line movements from the Gulf Coast to Kansas City. Shipments by pipeline from Philadelphia also were pushed in the direction of the Great Lakes to fill the gap.

Standard's purchases to offset losses apparently were going on a first-things-first basis. The company was taking care of its gasoline position before looking into distillates and residual. There's plenty of distillate in the Midwest, and the heating season is still a couple of months in the future.

Stanolind Oil Purchasing Co., the crude supplier to the Whiting plant, had to change its plans in a hurry. It was faced with an immediate stack-up of oil flowing in from the Mid-Continent and the Southwest. So it cut back its takings of crude by about 45%. For Texas producers, this meant a temporary market loss of about 80,000 b/d.

Distillates—Throttle Wide Open:

Cargo traders have their crystal balls zeroed in for distance, and see a distillate surplus ahead. Here's how they reason it. Gulf Coast refiners are sold up on gasoline. This means they have no inventory problem to put a lid on their output. It's a situation that invites capacity operations. The result: too much production of distillates.

Already some East Coast terminal operators are loaded up on No. 2 fuel, have asked their suppliers to cancel September cargoes due them. The suppliers still are taking a "tough" line, are telling the customer that a cancellation in September means one less cargo available in January. But the suppliers will probably relent if October's weather is warm.

Resid:

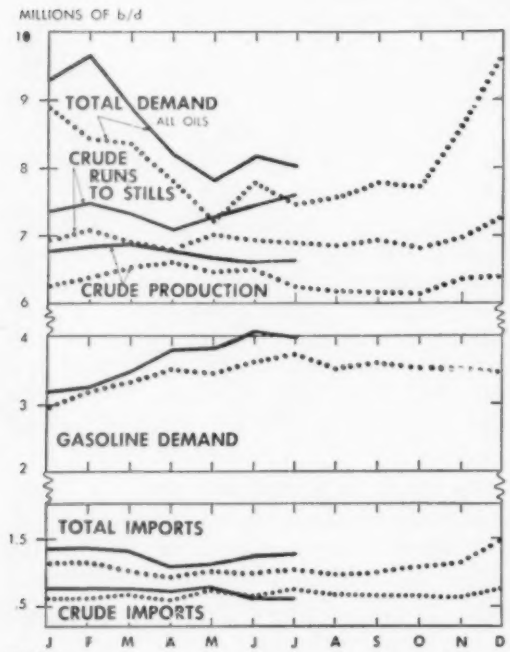
Low-sulfur bunker oil eased at the Gulf, and a terminal operator in Houston offered four cargoes, lifting next 45 days, at $2.10 per bbl. The terminal operator cited a steel-company customer that had been taking low-sulfur oil at the rate of one cargo every two weeks. But now, the customer is buying only one cargo every three months.

Lubes:

Export lube quotations have stiffened since midsummer. Last week, the Argentine government was quoted bright stock in bulk, f.o.b. the Gulf, at 23¢ a gal. In July, Argentina picked up the same oil at 20¢. Solvent 500 neutral oil was offered at 20.97¢, up about 4.5¢ from three months ago.

PETROLEUM WEEK'S

Fingertip Figures



TOTAL DEMAND

Latest 4-week average	8.190
Year ago	7.563

RUNS TO STILLS

Latest week	7.554
Previous week	7.642
Year ago	6.946

CRUDE PRODUCTION

Latest week	6.655
Previous week	6.662
Year ago	6.111

GASOLINE DEMAND

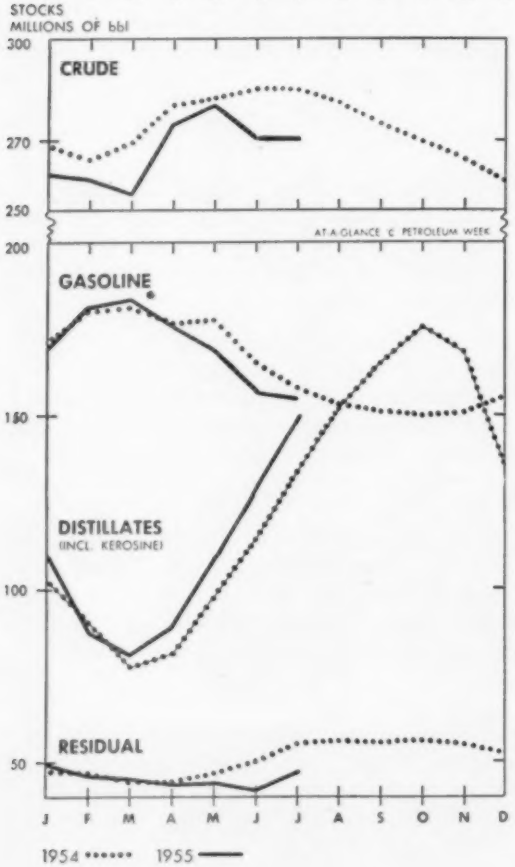
Latest 4-week average	3.907
Year ago	3.610

TOTAL IMPORTS

Latest week	1.126
Previous week	1.309
Year ago	1.065

CRUDE IMPORTS

Latest week	.965
Previous week	.917
Year ago	.712



CRUDE STOCKS

Week ended 9-3	259.1
Previous week	259.8
Year ago	274.3

GASOLINE

Latest week	154.3
Previous week	153.3
Year ago	153.5

DISTILLATES

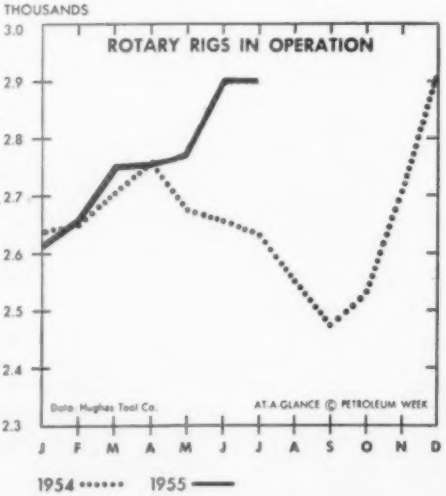
Latest week	173.4
Previous week	168.3
Year ago	152.4

ROTARY RIGS

Latest week	2.919
Previous week	2.984
Year ago	2.474

RESIDUAL

Latest week	47.1
Previous week	46.6
Year ago	56.3



THERE IS EVERY INDICATION that total demand for all oils this year will run higher than even the revised forecasts had anticipated (PW—Jul. 8'55,p9). Results so far, plus conservative estimates for the remaining months, place total demand for all of 1955 at an average of about 8.7-million b/d, a gain of 7.3% over 1954. The revised Bureau of Mines forecast, issued Aug. 1, figured the year's demand at only 8,592,000 b/d, a 6% gain over 1954.

Results for the first eight months of 1955 already have proved that the bureau's forecast is on the low side. Total demand in the January-August period is up 8% over the like 1954 months. The pace setters in the unexpected rise so far have been distillate and residual fuel oils. They have recorded gains in demand of 8.8% and 8.7%, respectively.

The higher forecast for the full year 1955 is projected on the basis that fourth quarter demand will average 9,110,000 b/d. This conservative estimate represents a gain of only 5% over the last three months of 1954. If weather is normal the figure will undoubtedly prove to be much higher. First quarter demand this year averaged 9,232,000 b/d, (up 7.4%), and in every postwar year except one, demand in the last quarter has exceeded the first quarter.

The Market Place

AROUND THE WORLD

Current key crude and refined oil prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service, a McGraw-Hill Publication.

All Prices as of September 12

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal., except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, cargoes
- Gasoline, 97 oct prem. ... 13-13.5
- Gasoline, 90 oct reg. ... 11-11.5
- Kerosine ... 8.75-9.75
- Heating oil, No. 2 ... 8.5-9.25
- Gas oil, 48-52 d.i. ... 8.625-9.125
- Fuel oil, bunker "C" ... $2.10-2.15

Caribbean, cargoes
- Avgas, Grade 100/130 ... 16.75
- Gasoline, 93 oct research prem. ... 11.5
- Gasoline, 87 oct research reg. ... 10.5
- Gasoline, 79 oct research ... 9.75
- Gasoline, 70-72 oct motor method ... 9.5
- Kerosine ... 8.75
- Heating oil, No. 2 ... 8.5
- Gas oil, 48-52 d.i. ... 8.625
- Fuel oil, bunker "C" ... $2.10

New York Harbor, barges
- Gasoline, 89 oct reg. ... 11.75
- Kerosine ... 10.55
- Heating oil, No. 2 ... 10.05
- Fuel oil, No. 6 ... $2.65

Okla.-Group 3, northern shpt, bulk
- Gasoline, 86 oct reg. ... 11-11.5
- Kerosine ... 9.25-9.5
- Heating oil, No. 2 ... 8-8.5
- Fuel oil, No. 6 ... $1.75-1.90

Chicago, bulk
- Gasoline, 86 oct reg. ... 12
- Heating oil, No. 2 ... 9.25-10.3
- Fuel oil, No. 6, high sulfur ... 7.15-7.35

Los Angeles, rack
- Gasoline, 84 oct reg. ... 13.1-13.15
- Stove dist., PS 100 ... 9.25-10
- Diesel fuel, PS 200 ... 8.75-9.25
- Light fuel, PS 300 ... $2.05-2.10
- Heavy fuel, PS 400 ... $1.70-1.85

Natural Gasoline, Grade 26-70
- FOB Group 3 ... 5.5
- FOB Breckenridge, Tex. ... 5

Penna. Lubes
- **Bright stock, 25 p.t. ... 18-20**
- **200 vis. neutral, 25 p.t. ... 18.5-20**

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent, 95 v.i. ... 20-22
- Neutral, solvent, 200-210 vis. ... 15.75-17.75

Gulf Coast Lubes
- Bright stock, solvent, 95 v.i. ... 20-21
- Neutral, solvent, 200 vis. ... 16-17.5

Eastern Hemisphere

Singapore, cargoes
- Avgas, Grade 100/130 ... 18.375
- Gasoline, 79 oct research ... 10.25
- Gasoline, 70-72 oct motor method ... 10
- Kerosine ... 9.375
- Gas oil, 48 d.i. minimum ... 9.125
- Fuel oil, light ... $3.10

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9 grav. ... $2.82
- North Dakota, 36.0-36.9 grav. ... 2.82
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9 grav. ... 2.95
  - Gulf Coast, upper & lower, 26.0-26.9 grav. ... 2.82
  - West Texas sweet, 36.0-36.9 ... 2.82
  - West Texas-New Mexico intermediate, 36.0-36.9 ... 2.75
  - West Texas-New Mexico sour, 32.0-32.9 ... 2.61
  - East Texas, flat price ... 2.90
  - Mirando, 28.0-28.9 grav. ... 2.96
- Illinois Basin, flat price ... 2.90
- Penna. Grade, Bradford dist., flat price ... 3.60
- California, Signal Hill, 21.0-21.9 grav. ... 2.30†
- North Louisiana-Arkansas, 36.0-36.9 grav. ... 2.82
- Wyoming sweet, 36.0-36.9 ... 2.82
- Wyoming sour, 32.0-32.9 ... 2.48

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.) D-2, D-3, L.C. ... 2.54
- Leduc-Woodbend (Alta.) D-2, D-3 ... 2.60
- Redwater (Alta.) D-3 ... 2.49
- Daily-Mississippian (Man.) ... 2.34
- Smiley-Viking (Sask.) ... 2.24

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 48.0-48.9, Tucupido ... 3.40
- San Joaquin, 41.0-41.9, Puerto la Cruz ... 3.04
- Oficina, 35.0-35.9, Puerto la Cruz ... 2.88
- Tia Juana Medium, 26.5-26.9, Amuay ... 2.30*
- Bachaquero, 16.5-16.9, Amuay, Las Piedras ... 1.90**
- West Tarra, 37.0-37.9, Cardon ... 2.99
- Lagunillas Heavy, flat prices: Cardon ... 1.90
  Amuay, Las Piedras ... 2.05

Differential per ½ deg. grav.: (*) 2.5¢ bbl. (**) 3.5¢ bbl.
†Differential per deg. of grav. varies.

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabian, 36.0-36.9, Ras Tanura ... 1.97
- Basrah, 36.0-36.9, Fao ... 1.92
- Iranian, 34.0-34.9, Bandar Mashur ... 1.91
- Iranian, 34.0-34.9, Abadan ... 1.86
- Iraq, 36.0-36.9, Fao ... 1.92
- Kuwait, 31.0-31.9, Mina-al-Ahmadi ... 1.72
- Qatar, 39.0-39.9, Umm Said ... 2.06

Middle East, E. Mediterranean
- Arabian, 36.0-36.9, Sidon ... 2.39
- Iraq, 36.0-36.9, Tripoli, Banias ... 2.39

Far East (Cargoes, FOB Lutong, Sarawak)
- Seria Light, 37-38 grav. ... 2.60

KEY TANKER RATES

(Last paid, per long ton, single voyage)

- U. S. Gulf-New York, clean. . (USMC –22½%) $2.21
- U. S. Gulf-New York, dirty. . (USMC –22½%) $2.21
- **NWI-USNH, dirty ... (USMC –27½%) $1.96**
- NWI-UK/Continent, dirty . . . . (Scale –2½%) 31/8*
- Persian Gulf-UK/Cont., dirty. . (Scale –2½%) 52/11*
- **Persian Gulf-USNH, dirty . . . . (USMC –27½%) $9.21**

**Sterling*

CLASSIFIED

DISPLAYED RATE

The advertising rate is $12.60 per inch for Equipment and Business Opportunity advertising appearing on other than a contract basis. Contract rates quoted on request.
Employment opportunities—$14.00 per inch, subject to Agency Commission.

UNDISPLAYED RATE

$1.50 a line. Minimum 3 lines. To figure advance payment count 5 average words as a line. (See ¶ on Box Numbers.)
POSITION WANTED. Undisplayed rate is one half of above rate, payable in advance.
PROPOSALS, $1.50 cents a line an insertion.

INFORMATION

BOX NUMBERS count one additional line in undisplayed ads.
NEW ADVERTISEMENTS accepted 16 days prior to issue date.

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PETROLEUM ENGINEERS
VENEZUELA AND COLOMBIA

Attractive Salary and other benefits. Excellent Personnel Development Program. Opportunity to obtain additional experience. Opens now for men with up to five years experience in Drilling, Production, Reservoir, and Equipment. Forward Personal data and college transcript to

C. L. Lewe Secony Mobil Oil Co.
26 Broadway
New York 4, N. Y.

FOR SALE

Small superex gasoline plant, 3 million cu. ft. maximum gas capacity and/or 4,500 gallons gasoline and 4,500 gallons Butane-Propane daily. Russell Engineering Corporation, P. O. Box 6731, Houton 5, Texas.

PERSONNEL MANAGERS

LOOKING FOR ENGINEERS . . . TECHNICIANS ?

Write for free copy of

"RESERVOIR OF ENGINEERS AND TECHNICAL MEN"

THE engineers and technicians you want to reach are gathered in convenient, compact groups—as this 12-page booklet points out.

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Write for your free copy to
Classified Advertising Division
McGraw-Hill Publishing Co., Inc.
330 W. 42nd St., N. Y. 36, N. Y.

DEPT/Oil Men at Work

FRED HOLLOWAY, assistant general manager of Esso Standard Oil Co.'s Baton Rouge refinery, has been named assistant general manager of the company's East Coast manufacturing division. The division includes Esso's refineries in New Jersey, Massachusetts, Maryland, South Carolina, and Pennsylvania. **Donald L. Ferguson** and **Daniel L. Hussey** will continue as assistant general managers. **Donald O. Swan,** general superintendent at the Baton Rouge plant, will take Holloway's place there.

DR. GRAHAM EDGAR, who developed the octane scale and helped develop the first 100-octane gasoline, died at Greenwich, Conn., last week after a long illness. He was 68. He joined Ethyl Corp. as a research director when it was organized in 1924. He later served as vice-president of the firm, and as vice-president and director of Ethyl Dow Chemical Co. He retired in 1952, but continued as a consultant to Ethyl.

J. E. KENDALL has been advanced to manager of Phillips Petroleum Co.'s southeast region. He is transferring from Houston to Bartlesville. He replaces **M. H. Steig,** who resigned. Other personnel changes announced by Phillips include the following: **R. E. McPhail** was promoted to assistant regional manager at Bartlesville, and will continue as regional geologist; **T. H. Montgomery** was transferred from Bartlesville to manage the newly created Lafayette (La.) division office (formerly district office); **S. A. Spencer,** from Houston, will assist Montgomery and will also serve as regional geologist; **R. J. Chambers** was transferred from Corpus Christi to become division manager at Houston, with **Sam McBirney** to serve as his assistant and as division landman.

BYRON ANDREWS and **RICHARD HERSCHER** have joined Kin-Ark Oil Co., El Dorado, Ark. Andrews will handle subsurface geology and drilling operations in the firm's midcontinent operations, and Herscher will handle geological survey work for the firm's leases in the Denver-Julesburg basin. Andrews is a former Lion Oil Co. geologist and a former consultant in West Texas fields. Herscher has been employed as a geologist in various Colorado oil fields.

ARTHUR W. BROWN has been appointed manager of the insurance and Social Security department of Standard Oil Co. (N. J.). He was assistant manager. He succeeds **J. W. Myers,** who has retired. Brown joined Jersey Standard in 1946 as a specialist in the development of employee benefit plans. Myers has been with the company since 1918. He helped develop the social security system administered by the federal government.

JULIAN M. AVERY will direct the product development division of Ethyl Corp. He will continue as technical adviser, a position he has held since 1952, when he joined the Ethyl staff after serving as a consultant to the firm. He replaces **William T. Hack,** who resigned.

W. R. GRIFFIN, assistant treasurer of the Texas Pipe Line Co., has been promoted to comptroller. He entered the firm in 1937. He has been assistant treasurer since Feb. 1, 1952.

RICHARD ROLLINS, secretary and public relations director for Atlantic Refining Co., will become national chairman of the Oil Industry Information Committee early in December. He succeeds **W. R. Huber,** of Gulf Oil Co. Vice-chairmen will be: **Arthur J. DeBlois,** DeBlois Oil Co., Pawtucket, R. I.; **M. S. Hauser,** Ohio Oil Co.; **Kenneth Rugh,** Phillips Petroleum Co.; and **Jerry Luboviski,** Union Oil Co. of California.

WATSON CALDWELL, district geologist for Sunray Mid-Continent Oil Co. at Lake Charles, La., has been promoted to Gulf Coast division geologist, with headquarters in Tulsa. He replaces **Joe Peerson,** who resigned. Caldwell has been with Sunray since 1953. Before that, he was with Signal Oil & Gas Co., Houston.

ALLEN MYRA, a director of Standard-Vacuum Refining Co. of India, Ltd., will become managing director of the firm's recently completed plant near Bombay. He succeeds **W. A. Williams,** who has returned to the company's New York office for further assignment. Myra, a Canadian, entered the oil industry in 1934. He progressed from chemist to head of the process control department of Imperial Oil, Ltd., before joining Stanvac in 1952 as general superintendent.

PAUL I. ADCOCK and **S. B. CALDWELL** are managing D-X Sunray Oil Co.'s newly created northern and southern regions, respectively. Both were elevated from division managerships. **D. C. Wixson** heads the firm's retail marketing operations as vice-president.

J. M. HOLLINGSWORTH has been appointed sales manager for Lone Star Steel Co.'s first district, which includes Dallas, Fort Worth, and East Texas. He joined Lone Star in 1949 and, since that time, has held various supervisory positions in the sales department.

LEE WATTS will direct a new centrifugal pump sales office for Pacific Pumps, Inc., at San Francisco. He has been in Pacific's Los Angeles district office.

WILLIAM S. FLOYD, assistant director for materials in the Office of Defense Mobilization, is returning to Shell Oil Co. He was purchasing stores manager for Shell in San Francisco before entering ODM. He will be succeeded Oct. 1 by **Frank C. Ogden.**

AL REESE has joined the staff of Petroleum Week as a senior editor. He is one of three Southwesterners who have been named to editorial posts in New York. The others are **Clyde LaMotte,** assistant news editor, and **Arthur Matula,** assistant editor. Reese, a native of Mississippi, graduated from the University of Texas and had an extensive newspaper career in Texas before joining Gulf Publishing Co., where he was managing editor of World Oil and Pipe Line Industry. LaMotte, a native Texan, also attended the university there, worked 10 years for the Houston Post, and joined the Washington, D. C., bureau of the McGraw-Hill oil publications in 1951. Matula is a graduate of Texas A. & M. College, and worked on newspapers in Odessa and Little Rock. **William P. Sterne,** a native of Sapulpa, Okla., has been named regional editor of Petroleum Week with headquarters in Tulsa. He formerly was with the Oil & Gas Journal in Tulsa and Houston.

DUANE JOHNSON, former service specialist for Otis Pressure Control, Inc., in New Iberia, has been named district superintendent for the firm's Houma and Harvey (La.) branches. **Frank Rhoades,** senior sales engineer for the firm, has been transferred to the company's division headquarters in New Iberia, La. He was in the Otis division office in Corpus Christi.

SEYMOUR S. RUTHERFORD, JR., will manage Sun Oil Co.'s general accounting department. He joined Sun in 1940, and has been assistant manager in the department since last June. He succeeds **Joseph T. Wilson, Jr.,** who was elected last month as assistant secretary and assistant treasurer.

LAWRENCE F. WILLIAMS is the new president of Cooper-Bessemer Corp., Mt. Vernon, Ohio. The company supplies engines and compressors to the petroleum industry. Williams, a C-B vice-president and son of **D. D. Williams,** the firm's board chairman, succeeds **Gordon Le Febvre,** who resigned because of illness after 14 years as president.

CHARLES J. MELLENDECK has been promoted to marine superintendent of Tide Water Associated Oil Co.'s eastern division. He has been assistant marine superintendent since 1936, five years after he joined the company. Succeeding him as assistant is **Walter Kucaba,** who joined Tide Water in 1947 as chief engineer. He has been acting inspector of ship repairs since 1947.

ADVERTISERS IN THIS ISSUE

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350 Park Square Bldg.
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1510 Hanna Bldg.
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Room 309, 611 South Boston
Gibson 7-7767

Time's A-Wasting

IT SEEMS NOW TO BE PRETTY MUCH AGREED that the oil industry faces some tough going in the next session of the present Congress. Yet, though nearly two months have gone by since the first session ended and with January only a little more than three months off, there's little evidence of any preparations being made to push through legislation favorable to the industry.

THE INDUSTRY WILL BE MAKING A FATAL MISTAKE if it doesn't get a move on soon. The opposition is off and running already. Running hard, too, and getting in its licks—first—in the places where they're calculated to do the most damage: out among the people.

Just last week, as an instance, Sen. Wayne Morse was sounding off loudly to Oregon voters that the "oil trust" wants to free natural gas from federal regulation in order to make bigger profits on both fuel oil and gas. And what Morse is saying in Oregon, the Douglases, Humphreys, and others of their kind are saying elsewhere. Let them gain a little more lead and there may be no overtaking them in the stretch, anymore than Swaps could overtake Nashua.

In deciding what course it should take to offset this sort of attack, the industry should keep this point always in mind: The issue is going to be decided on the basis of what Congress thinks is best for the consumer. Little consideration will be given to what is fair or unfair for the industry.

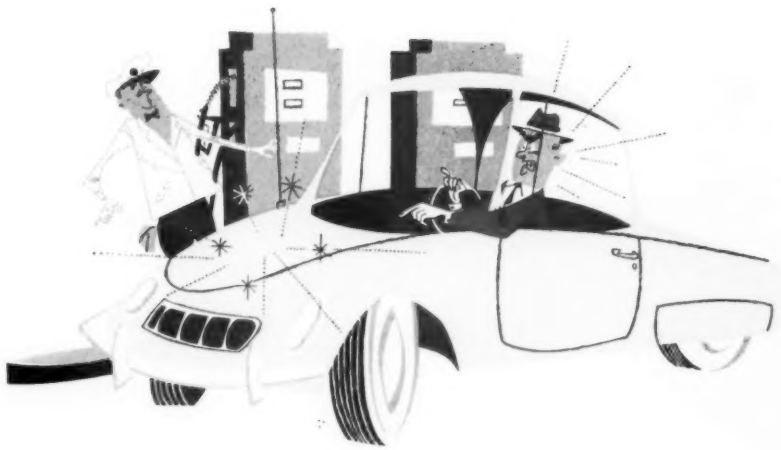
WHAT THE INDUSTRY MUST DO, therefore, is concentrate its efforts on demonstrating, clearly and convincingly, that federal regulation of natural gas producers would be a tragic mistake—and that the consumer would pay for that mistake. Any other approach by the industry would simply be a waste of time.

And there must be no further compromising. Too much ground has been yielded already in an effort to appease the opposition. Actually, instead of appeasing, these compromises merely spur the opposition on.

Some producers, unfamiliar with the ways of Washington, are inclined to put much faith in the promises they get from their congressmen that the gas bill will be passed promptly next January. Most of these congressmen will vote the way they feel most of the voters back home want them to vote. That's why the industry should get going on a program designed to reach the consumers with the facts of the case.

IT WON'T DO TO WAIT UNTIL NEXT JANUARY to start on this. It must be done right away, and there should be no let-up until the bill has been passed by Congress and signed by President Eisenhower.

Another Du Pont Marketing Service



Make sure the customer only "knocks" *ONCE*

ALTITUDE CHANGES cause salesman Ed Gilbert's car to knock.

AN OVERHEATED ENGINE that starts to knock takes part of the fun out of Jack Mallory's vacation.

STOP-AND-GO DRIVING causes a sound that makes Mrs. Chapin think she's got a loose bolt in her engine.

When his engine develops a knock, the average motorist has a tendency to "knock" the gasoline he's using — and one of your dealers may bear the brunt of his complaints.

To help dealers turn complainers into satisfied customers, Du Pont offers three interesting training tools.

The first is a new movie called, "When the Customer Says 'Knock'." The second, a folder reminding the dealer of the points made in the movie. The third is a folder that tells the story of "knock" without reference to the movie.

The picture is a live-action, 17-minute, full-color production which is not only instructive but highly entertaining as well. It describes dramatically the effects of humidity, temperature and altitude on engine performance. It points out how faulty carburetor settings, improper engine temperature and bad driving habits can contribute to the tendency of an engine to knock.

Dynamometer demonstration

Some typical situations from "When the Customer Says 'Knock'" are pictured at the left. They show motorists driving under normal everyday driving conditions under some of which they are plagued with "knock." These conditions and their knock-producing results are demonstrated in a more technical fashion on Du Pont's large, indoor chassis dynamometer at Deepwater, New Jersey. The movie proves convincingly that there are many factors besides gasoline quality which produce engine knock.

Since the new movie is only 17 minutes long, it fits easily into any dealer training program, and prints are available to refiners and marketers on a loan basis. They can also be purchased through your Du Pont Petroleum Chemicals Division representative.

To help them remember

To make sure your dealers remember this movie's message, we offer a 4-page folder covering all its pertinent points. It makes an ideal take-home handout for your dealer meetings. Another folder, "When the Customer Says 'Knock'," is for distribution to personnel who have not seen the movie. Both folders are instructive and are available free. In larger quantities, they can be supplied at cost.

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Better Things for Better Living
. . . through Chemistry

Petroleum Chemicals

E. I. DU PONT DE NEMOURS & CO. (INC.) • Petroleum Chemicals Division • Wilmington 98, Delaware

How **CABOT SHOPS, INC.** mounts the slow speed shaft of its Model AC pumping unit on Timken tapered roller bearings.

How TIMKEN® bearings hold shafts in alignment despite heavy loads— cut gear wear on Cabot pumping unit

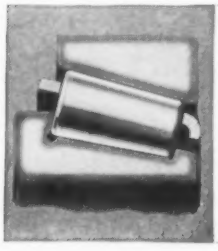
THE bearings on the slow speed shaft on this Cabot Shops, Inc. Model AC pumping unit face real problems. Since herringbone gears are used, the bearings must position all shafts. And since they're on the slow speed shaft, they must take heavy radial loads. To add to the problem, this equipment must run for years with very little attention. So the bearings must be practically maintenance-free.

To solve these problems, Cabot engineers specified Timken® tapered roller bearings in each gear box. Timken bearings are designed to do such tough jobs easily. Full line contact between rollers and races gives them greater load-carrying capacity. And tapered design lets Timken bearings take *both* radial and thrust loads or any combination. As a result, end play is minimized. Shafts are held in proper alignment. Gear wear is reduced. Because Timken bearings hold housings and shafts concentric, closures are more effective. Lubricant stays in—dirt and moisture stay out. Lubrication costs are kept way down.

One reason Timken bearings can take it month in and month out is that we make our own bearing steel. We're America's only bearing manufacturer that does. And we make the steel nickel-rich for added toughness.

To make sure you get all these advantages, specify Timken bearings on all the oil field equipment you build or buy. Look for the trade-mark "Timken" stamped on every bearing. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.



GREATER LOAD AREA

Because the load is carried on the *line* of contact between rollers and races. Timken bearings carry greater loads, hold shafts in line, wear longer.

Only Timken tapered roller bearings have these advantages: 1. advanced design; 2. precision manufacture; 3. rigid quality control; 4. nickel-rich Timken alloy steels.

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

NOT JUST A BALL — NOT JUST A ROLLER — THE TIMKEN TAPERED ROLLER — BEARING TAKES RADIAL — AND THRUST — LOADS OR ANY COMBINATION